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A

DICTIONARY

OF

DOMESTIC MEDICINE

AND

HOUSEHOLD SURGERY,

THOROUGHLY REVISED AND BROUGHT DOWN TO THE
PRESENT STATE OF MEDICAL SCIENCE,

BY

SPENCER THOMSON, M.D., L.R.C.S., EDINBURGH.

WITH A CHAPTER
ON THE MANAGEMENT OF THE SICK-ROOM.

BIBLIOTHECA BODLEIANA

ILLUSTRATED WITH NUMEROUS WOOD-CUTS AND DIAGRAMS.

LONDON:
CHARLES GRIFFIN AND COMPANY,
STATIONERS' HALL COURT, PATERNOSTER ROW.
1866.

157. m. 113

AUTHOR'S PREFATORY ADDRESS.

THAT works professing to afford popular information on medical subjects, may thoroughly answer the purpose for which they are designed, one especial point requires ever to be kept in view—the information given must be safely usable by those who are put in possession of it. It is an objection frequently adduced against such works, that they place a little dangerous knowledge in the hands of the public, in a form so apparently simple, as to make it a source rather of evil than of benefit: and, undoubtedly, the allegation has in some respects been correct. But is it necessary, in preparing a work on domestic health, to incur this hazard? I think not, For without entering upon that difficult ground which correct professional knowledge, and educated judgment, can alone permit to be safely trodden, there is a wide and extensive field for exertion, and for usefulness, open to the unprofessional, in the kindly offices of a *true* Domestic Medicine; the timely help and solace of a simple Household Surgery, or better still, in the watchful care, more generally known as "Sanitary Precaution," which tends rather to preserve health than to cure disease. "The touch of a gentle hand" will not be less gentle, because guided by knowledge, nor will the *safe* domestic remedies be less anxiously or carefully administered. Inseparably connected with the intelligent use of these remedies, there must be correct *general* ideas respecting the anatomical arrangements and physiological requirements of the human frame. This also has been objected to. I hesitate not to say, that it is such knowledge as ought to be in the possession of every responsible man. Making apparent the importance, and rational foundation of the means of preserving or of invigorating health, or of restoring it when impaired, it renders submission to the requirements of those means, a more sure and cheerful service, when rendered to the conviction of the understanding, rather than to the dictum of an adviser. Amid the humbler classes especially, the diffusion of such knowledge is highly requisite, as a counter-agent to the impudent quackery which preys upon the credulity and lamentable ignorance of the simplest principles of health, which pervade the mass of the people.

But health *will* fail, either in old or young, and accidents *will* happen, in spite of the most careful precaution; it then becomes a question, how far non-professional interference may go. In many of the emergencies and accidents of daily life, even in a settled country, but more especially in the thinly peopled colonies, ready information respecting what is best to be done, possessed by a neighbour or a bystander, is often of the most essential service; indeed, every medical man must have witnessed how much mischief may result, either actively or passively, and in a very short time, from ignorance of even the most obvious and common-sense modes of treatment. The information upon these points, given in a popular work, can scarcely be too full or too accurate. In the requirements of Household Surgery, or of sudden emergency, such as poisoning, burning, &c., the question is, "What must be done?" Generally speaking, little or no skill is requisite to determine the nature of the case, or of the injury, which is often too apparent, the anxious question "What must we do?" is that which calls for answer; and if, sometimes, it happens that the exact nature of the accident be not sufficiently evident, that is no reason why knowledge on the subject generally, aided by common sense, may not do much to relieve. Life may be saved, suffering may always be alleviated Even to the resident in the midst of civilization, the "knowledge is power" to do good; to the settler and the emigrant, it is invaluable.

We come to a point more liable to cavil—the actual treatment of disease, properly so called, by the unprofessional, and how far it is well to afford information, which may tempt the rash to use that which education only can safely employ. It may be trite, but it is true, that in order to treat a disease safely, and with benefit, we must learn its nature. Now, when it is remembered, how the nicest judgment that observation and experience can form, the most patient attention, aided by practised ear and eye, by microscope and test tube are frequently necessary, to enable the conscientious physician to judge of his case before he can apply the remedy, it is evident how great must be the responsibility of those who, in rashness or ignorance, venture upon the treatment, of serious disease, either in their own persons or in those of others; incapable of judging of its nature, still less capable are they of selecting the appropriate treatment. There is, however, a vast difference between the management of real disease and of ordinary ailment — between endeavouring to strike at the root, or only to relieve the symptoms. Any unprofessional man, or woman either, in this kingdom, who, with all facility that there is for procuring skilled advice, ventures to take the medical management of a case of real illness, acts most unwarrantably; but there are numbers of lesser ailments, many of the more painful incidents and symptoms, simply and easily removable by means which all may employ, and with which it is most important that all should be acquainted; which the parent may use to the child, or the pastor recommend to his parishioners, without fear.

One step further. If danger may result from rash treatment, none can arise from a general acquaintance with the most prominent symptoms which herald the approach of dangerous sickness; these, I think, should be made known, whilst all remarks upon the management, whether limited as for use in this country, or more extended for the sake of the dweller in remote or unsettled districts, I trust so to guard, as to make them safe and useful guides.

I know well what is said by a few, about injuring the medical profession, by making the public their own doctors. Nothing will be so likely to make "long cases" as for the public to attempt any such folly; but people of moderate means— who, as far as medical attendance is concerned, are worse off than the pauper—will not call in and fee their medical adviser for every slight matter, and in the absence of a little knowledge, *will* have recourse to the prescribing druggist, or to the patent quackery which flourishes upon ignorance, and upon the mystery with which some would invest their calling. And not patent quackery alone, but professional quackery also, is less likely to find footing under the roof of the intelligent man, who, to common sense and judgment, adds a little knowledge of the whys and wherefores of the treatment of himself and family. Against that knowledge which might aid a sufferer from accident, or in the emergency of sudden illness, no humane man could offer or receive an objection.

To resume. The information which it is proposed to offer in this Dictionary may be classed as Anatomical and Physiological, Sanitary or Hygienic, the Treatment of Accident and Emergency, and the Management of Illness. In some respects, perhaps, the adoption of this classification might be advantageous, but as a means of ready reference, the alphabetical arrangement of subjects will, it is thought, be found more convenient.

SPENCER THOMSON.
Haunton, Burton-upon-Trent.

PREFATORY NOTICE.

As it would involve much repetition, to give the forms, doses, and mode of administration of the various remedies each time they are individually mentioned, the reader is referred for the requisite information, to the individual articles themselves, and to the article, "Materia Medica," which will appear in its proper place, and under which all that is necessary for the purposes of the *Dictionary* will be fully given. When Doses are mentioned in the general articles—unless otherwise specified—they are the average for an adult—S. T.

MEDICAL DICTIONARY.

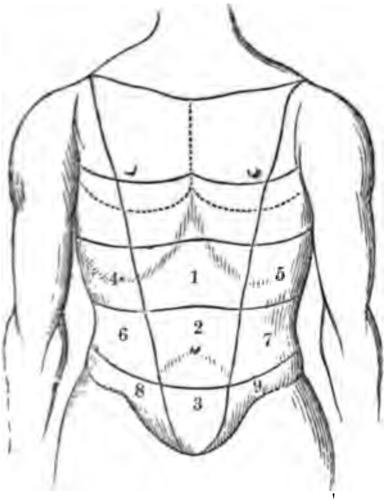

Fig. i.

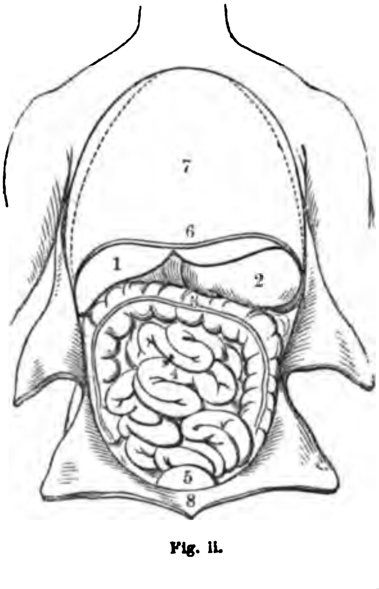

Fig. ii.

ABDOMEN.—Fig. i. and ii. The abdomen, or belly, the largest cavity of the body, is bounded above by the chest, fig. ii., 7; and below by the pelvic bones, which are joined in front, fig. ii., 8. These bones, which every one may feel in their own person, likewise enclose a cavity—the cavity of the pelvis—which is sometimes described separately from the cavity of the abdomen; but the two are so completely undivided, that they are better treated of together. The cavity of the abdomen is divided from that of the chest, by the midriff or diaphragm; fig. ii., 6; posteriorly, it is supported and protected by the spine—it is inclosed by the short ribs and abdominal muscles. To facilitate description, medically, the abdomen is mapped out into regions by imaginary horizontal and vertical lines drawn as represented, fig. i. The horizontal lines drawn round the abdomen divide it into three zones, which, by the vertical lines, are divided into nine anterior regions, as follow:—1, Epigastric; 2, Umbilical; 3, Hypogastric; 4 and 5, right and left Hypochondriac; 6 and 7, right and left Iliac; 8 and 9, right and left Inguinal. In the upper zone lies the liver, fig. ii., 1, extending from under the right ribs across to the left; the stomach fig. ii., 2, has its small end situated in the epigastric, its large end in the left hypochondriac region, where it is in contact with the spleen, or milt. The pancreas, or sweetbread, lies behind the stomach. The middle zone contains the large bowel, fig. ii., 3, the omentum, or caul, a portion of the small intestines, fig. ii., 4; and, posteriorly, lying close to the spine, the kidneys. The inferior zone also contains, centrally, a portion of the small intestines, laterally, the extremities of the large intestines or colon, and when it is distended, the superior portion of the bladder. All these parts, or viscera, are covered, and supported, by a smooth, glistening, moist membrane, the peritoneum, which is also continued over the parts within the cavity bounded by the pelvic bones. These are, more especially, the bladder, and terminating extremity of the bowels, named the rectum, and in the female, the womb, and its appendages. Both bladder and womb, when distended, rise from their own proper cavity into that of the abdomen. The viscera of the abdomen are divided into solid and hollow; of the former, the liver is an example; of the latter, the intestines and bladder. These, of course, give different sounds, when the covering of the abdomen, beneath which they lie, is slightly struck with the finger, a fact of great importance to the physician, in his examination of this cavity. The contents of the abdomen shift their position considerably according to posture. The diseases to which they are liable will be noticed under their respective heads. One of the most important accidents to which this cavity is subject, is protrusion of a portion of its contents through its walls, constituting hernia, or rupture. Accidental wounds *penetrating* the cavity of the belly are very generally fatal, and if they pierce any of the viscera, almost necessarily so.

Refer to—*Diaphragm—Liver—Stomach—Peritoneum—Hernia.*

ABLUTION.—Washing the surface of the body regularly, is, happily, in this country at least, becoming daily more common, but it is far from being so general a habit as it ought, particularly among the working-classes, who stand most in need of it; many go from January to December without even thinking it necessary to wash more than the face or hands. The skin ought continually to be throwing off, or excreting, gaseous, saline, and greasy matter, which it is necessary for the health of the body should be thrown off; but the skin cannot do this properly if caked over with perspiration and dirt, either its own or the dust to which many are exposed in the performance of their employments. The consequence of neglect is, that much is retained in the system which ought not to be there; an additional load of duty is thrown upon other excreting organs, as the liver and kidneys, and if they have not the power to compensate for man's own carelessness, languor, low spirits, headaches, local accumulations of blood, gout, gravel, and other diseases are the result. Fortunately, complete neglect cannot entirely stop the skin's functions, otherwise death itself must result. For the purpose of cleansing the skin, soft water ought to be used, if possible, with soap—good brown is quite the most effectual—and a thorough purification of the entire surface of body should be effected once a week, at least, with these materials; along with this, washing over the surface with simple water, and rubbing well with a rough towel, every night or morning, as most convenient, will suffice to preserve a healthy state of skin. Those who are robust, and wash in the morning, ought to use cold water immediately on rising, while heat is abundant; but delicate persons cannot sustain the depression and subtraction of animal heat, which this occasions, it leaves them chilled, languid, and with impaired digestion. There are some individuals, in whom cold sponging in the morning, invariably produces heart-burn and indigestion after breakfast; such ought to try the water slightly warm, or content themselves with washing only a portion of the skin each morning; if even this cannot be borne, dry friction with a rough towel or hair-glove, may be substituted. After washing, it is always desirable to rub the surface thoroughly with a towel till a warm glow is produced. For washing at night, water slightly warm is always to be preferred. The feet require very frequent washing. It is surprising how insensible, even otherwise, respectable individuals are upon this point, were it not so, they would never expose themselves to medical men in the disgusting state of dirt they frequently do. Happy are those who can have the use of baths for the purposes of ablution, but any man who can command water and a towel, need not dispense with the luxury. For the aged, frequent and thorough ablution is most requisite, the, often, shameful neglect of this by those who have the care of old people, is visited upon them in querulousness, and troublesome bodily ailments, which attention to the duty would have prevented. [*]

Refer to—*Bath—Children—Skin.*

ABORTION—MISCARRIAGE.—The terms abortion and miscarriage are applied to the expulsion of the human fœtus from the womb of the mother, previous to the seventh month of pregnancy, that is, before it is sufficiently developed to maintain its own independent existence; when the process occurs after that period, it is named premature labour. Miscarriage involves pain and weakness, in addition to the loss of offspring, and is often a severe trial to the maternal constitution. It may occur at any period of pregnancy, but particular stages are more liable to the accident than others; these are generally considered to be about the time of the first menstruation after conception; again at the twelfth week, and towards the seventh month; the liability is increased at those times, which correspond to the menstrual period. When abortion has once taken place, it is more liable to occur again, and some have so strong a tendency to it, that they never go beyond a certain stage, at which they invariably miscarry. The cause of abortion may exist in the constitution of the female herself, and be the result of weakness and irritability, of over full habit, or of a diseased condition of the womb; the fœtus may die, or be deficient in development, when it is cast off like a blighted fruit. Suckling after conception has taken place, is not unfrequently a cause of miscarriage. Active disease occurring during pregnancy, such as severe inflammation, fevers, eruptive fevers, &c., are almost certain to occasion expulsion of the uterine contents. Continued diarrhœa, and the action of strong purgatives, particularly of the aloetic kind are dangerous. This is a very cogent reason, for those who are pregnant, avoiding all quack aperient medicines, they almost all contain aloes, and may be very injurious. All undue exertion or agitation of body or mind, sudden jerks or jumps, riding on horseback in the early, or in a shaking carriage in the later stages of pregnancy, may any of them bring on the mishap; to these may be added, exertion of the arms in doing anything on a level above the head; costive bowels and straining consequent thereon, sensual indulgences, and luxurious habits. Those who have once aborted ought to be extra careful in succeeding pregnancies, and all ought to bear in mind the possibility of the occurrence. The symptoms of threatened abortion vary with constitution; in the strong and plethoric, it is often preceded by shivering and febrile symptoms, and by feeling of weight in the lower bowels; in the weak, there is languor and faintness, flaccidity of the breasts, and general depression, and pains in the back and loins. Intermittent pains, and discharge of blood from the passage, tell that the process has begun. If miscarriage occurs within the first month or two after conception, the process may be accomplished with so little inconvenience as to escape notice, and to be mistaken for a menstrual period; more generally, however, the severity of the pain, and unusual clotted discharge, render the case evident. The pain, the discharge, and at the same time the danger of an abortion, are in proportion to the advancement of the pregnancy. When miscarriage goes on, the pains increase in force and frequency, and continue with discharge of blood, fluid, or in clots, until the ovum is expelled, after which, both become moderated, till they cease altogether, and the red flow gives place to a colourless one. It is very important that those in attendance upon the patient should examine every clot which comes away—if large, tear it in pieces—that they may ascertain whether the contents of the womb are expelled or not, for there is no safety or rest where miscarriage is progressing, till this has taken place, and everything cast off. When a medical man is in attendance, and in such cases he ought to be, all should be reserved for his inspection.

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[*] **ABLUTION.**—It is certainly a fact, that in persons of gouty habit, the use of the cold bath, in the morning, is injurious, unless it be followed by active exercise which thoroughly restores the excretory functions of the skin.

As soon as a female experiences threatenings of abortion, she ought at once to retire to bed, upon a mattress, and keep perfectly quiet till every symptom has disappeared: sometimes this simple measure, *promptly adopted*, is sufficient to avert the threatened evil. If there is much feeling of fulness, and the patient is of full habit generally, eight or a dozen leeches may be applied to the lower part of the bowels; if there is fever, salines may be given, such as the common effervescing draught of carbonate of soda and tartaric acid, or lemon juice; or if the bowels are much confined, seidlitz powders, assisting the action by cold clysters if necessary. When the pains are severe, particularly in the weak and irritable, twenty or thirty drops of laudanum should be given, and may be repeated in a few hours if the symptom is unabated. In the case of profuse discharge, the patient should be kept very lightly covered, movement avoided, and every article of food or drink given cold, iced if possible, provided the vital powers are not excessively reduced; cloths dipped in cold or iced water should be applied to the lower part of the body, and frequently changed; acid drinks, with cream of tartar, may be given freely. Ten or fifteen drops of *diluted* sulphuric acid, or of aromatic sulphuric acid, may be given in a wine-glassful of water every two or three hours. Should slight faintness come on, it is better not interfered with, it may be salutary; if it goes to an extent to threaten life, stimulants, sal volatile or brandy and water must be had recourse to. But long before matters go to this extent, proper medical assistance should be sought. Profuse and continued discharge, though it may not threaten life, must occasion weakness which is long of being overcome, and which may ultimately favour the development of fatal disease. The discharge may be kept up, solely, by a state of matters beyond the offices of domestic management, but to be speedily rectified by a little manual interference on the part of the medical man, who, by assisting the womb to cast off the already partially expelled contents, at once puts an end to further loss of blood. But even if matters be not sufficiently advanced to admit of this interference, the use of measures or remedies which the unprofessional cannot or ought not to employ, may save life, must save strength. Let no one think lightly of loss of blood, it saps the foundations of health. Circumstances may occur in which medical assistance is not to be obtained, at least not speedily, and flooding is profuse, and uncontrolled by the means already mentioned; in such a case, one grain and a half of sugar of lead made into a pill with crumb of bread, may be given every two hours, and washed down with a draught of vinegar and water, to which, if there is much pain, from five to ten drops of laudanum are to be added; in addition, pieces of linen or calico, soaked in a strong solution of alum, or decoction of oak-bark, and oiled, are to be used to plug the passage, or the astringent fluid may be thrown up with a syringe. It is repeated, the unprofessional should never adopt these measures, if professional advice is to be had, if not, it is better they should do so than matters go on uncontrolled. Both during the time, and after miscarriage, the general strength must be supported; this is better done by strong animal soups, milk-preparations, with eggs, and meat, when it is proper, than by much stimulant; nevertheless, wine or malt liquor may be requisite. Convalescence is to be assisted by tonic medicines, those containing mineral acid, bark, or iron, are generally the most appropriate. The bowels, as indeed they do throughout, will require attention. Castor-oil is very suitable; the cold or very cool water clyster is most useful: a drachm of Epsom salts, dissolved in half a pint of water, either cold or slightly warmed, and fifteen drops of dilute sulphuric acid added, forms a most appropriate aperient which should be taken before breakfast.

Three principles of treatment are to be kept in mind in the management of miscarriage.

The first, to prevent it, if possible, by rest, opiates, &c.

The second, to allay pain; to moderate the discharge of blood; save and support strength.

The third, when abortion must take place, to expedite the separation of the ovum.

The two first may be much assisted by judicious domestic management, the third must be done by the medical attendant only.

Refer to—*Pregnancy—Hæmorrhage.*

ABRASION.—An Abrasion, by which the outer or scarf skin, or cuticle, is forcibly removed, and the sensitive surface of the under true skin or cutis exposed, is a trifling, but sometimes a painful accident, and it may be, where the hands are necessarily subjected to the action of poisonous or irritating fluid, a dangerous one. The protecting cuticle is quickly restored, in the meantime it is necessary to provide a substitute. It must be an unirritating one. Persons often err by putting the common diachylon-plaster, on abrasions, and frequently much irritation and pain, and sometimes ulceration is produced by it. Court-plaster does not irritate, but is not useful for a large surface, in which case, gold-beater's leaf is quite the best application, if not exposed to moisture. Collodion has been used of late; it is not soon acted upon by water, but it causes severe smarting when first put on; this may be prevented by putting gold-beater's leaf next the sore, and collodion over. In the absence of the above, a little strong gum mucilage with a piece of tissue paper over, is a good substitute. Isinglass plaster is used; those who are not in the habit of applying it, find a difficulty in making it adhere. The principle in treating an abrasion, is to protect the sensitive true skin by some light, *perfectly unirritating, dry* application, till nature restores the natural covering. *

Refer to—*Plasters—Skin—Wounds.*

ABSCESS.—A collection of purulent fluid in a cavity, formed in the substance of any of the bodily tissues, is named an abscess. The contained matter, or pus, may be either of a healthy or of an unhealthy character; if the former, it is of a yellowish white colour, cream-like in consistence, and possesses a faint sickly odour; in the latter case, it may resemble whey, with bits of curdy substances floating in it, or it may be bloody, fetid, &c.

Abscesses are either acute or chronic, and may occur in nearly every tissue of the body. The first symptoms of an acute abscess are heat and tenderness of the part, followed by throbbing pain. If the matter is deeply seated no external marks may be visible for a time; when it is near the surface, the skin quickly exhibits inflammatory swelling, this continuing, it becomes thinner with more or less rapidity, until, at last, it gives way, and permits the matter to escape. Such is the natural course of what we may call a healthy abscess; but that course is necessarily modified by the position and coverings of the collection of matter. Abscesses do not always discharge through the skin, they may do so internally. Generally, as soon as the contents of an abscess are discharged, the pain which has previously been severe, ceases. Boils may be classed as abscesses; they contain a distinct core, or slough. Chronic abscesses may continue for weeks or months without change, but give comparatively little pain; they occur in weak or scrofulous subjects, and very generally in glandular tissues. In addition to pain and swelling, the sense of fluctuation, as of fluid contained in a bag, which an abscess conveys to the finger, is a symptom valuable in obscure cases, but when it is most valuable, it requires the educated touch of the surgeon to discover it. On the first suspicion of an acute abscess, frequent fomentation with water as hot as it can be borne, may succeed, if purgative medicine be given at the same time, in preventing its formation; but if it does not do this, it will then assist and hasten its progress, while it soothes pain. When it is tolerably certain that matter is formed, thick, warm, soft poultices must be continually applied to the part, the *position of which should be regulated with as much regard to ease as possible.* It is sometimes the popular custom to apply irritants, such as honey, soap-and-sugar, and such like, to boils or abscesses, with the view of assisting, or "breaking" them, the practice is both hurtful and cruel, and ought never to be followed. For fomentation, simple water; and for poultice, bread or linseed, are most generally applicable; when there is much pain, decoction of poppy-heads may be used for either, with advantage. Medical men are in the habit of opening abscesses, or boils, with the lancet or knife, but as to do this safely in every case, requires anatomical knowledge, the unprofessional should be content with simply relieving and assisting the painful progress by the means mentioned, till the matter is discharged naturally. After this happens, poulticing ought to be persevered in for a few days, and then exchanged for simple water-dressing, which must be continued till the part is well. A little opening medicine should at the same time be given. Many persons are in the habit of squeezing abscesses after the matter discharges; the practice is useless and painful; very gentle pressure only, is admissible. A chronic abscess is serious, from the indication it gives of a weak and unhealthy condition of body, and may also be so from size or position. The formation of an acute abscess is generally accompanied with more or less general inflammatory fever. In a chronic abscess, when there is fever, it has more of the hectic character, and is accompanied with night-perspirations. A chronic abscess usually requires speedy evacuation artificially, and constitutional treatment is always called for: the first, ought always to be done by a medical man; and the latter also, to be effectually carried out. Good light nourishment, with a due proportion of animal food, is indispensable; milk, if it agrees; wine or malt liquor, if there is not much fever. Regulation of the bowels by simple aperients—iron, mineral acid, with infusion of bark, and cod-liver oil, are the most generally applicable remedies in the constitutional treatment of chronic abscess.

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* Abrasion.—A mixture of one part of collodion with two parts of castor oil applied over an abrasion or burn, forms a smooth elastic covering or artificial cuticle. The smarting caused by the first application soon goes off.

Refer to—*Suppuration—Poultice—Water-dressing—Fever-hectic.*

ABSORBENTS.—Absorbents are minute vessels distributed throughout the body, the office of which is to take up nutritive material, and convey it into the current of the general circulation. The lacteal absorbents are those which take up the nutrient portion of the food, named chyle, from the alimentary canal; they unite in one common trunk, which runs up in front of the spine, and joins the large veins going directly to the heart. Soon after a full meal, these lacteal absorbent vessels become distended with the milky-looking chyle, the essential nutriment, separated from the food by the first process of digestion. As this chyle has to pass through a set of small glands—the mesenteric—before it can reach the blood, it must be evident how much the health of the latter fluid, and the nutrition of the body generally, must be interfered with, when these glands become diseased, as they frequently do in children.—See—*Tabes.*

The lymphatic absorbents are distributed throughout the body, and take up and convey back to the general circulation, whatever nutrient matter is fit to re-enter the blood. They also pass through glands, which are more particularly observable on the sides of the neck, in the arm-pits, groins, and insides of the thighs. These lymphatic glands are very apt to become enlarged, inflamed, and even to suppurate,

ABSINTHE.—See Appendix.

particularly in weak constitutions, or when there happens to be a sore on a part of the body more distant from the heart than the gland. In some persons, even scratching the head with the comb will occasion the glands of the neck to become swollen and painful. Popularly, these enlarged glands go by the name of "waxen kernels." When any of the lymphatic glands exhibit symptoms of irritation, the first thing is to ascertain whether this be owing to some scratch, wound, or sore on the body; if the glands of the groin inflame, the genital organs and the whole lower extremity must be examined, even between the toes; if the glands of the neck, the head must be well looked over, for it is evidently useless to be treating the secondary effect, while the cause, such as an irritable or irritated wound, continues, for they generally are, even though very small, irritable sores, which cause inflamed glands. If the exciting sore be soothed by rest, fomentations, poultices, &c., and a little simple opening medicine given, the irritated gland will generally resume its healthy condition; if it seems inclined to continue inflamed, it, too, must be soothed by the same means, and, if need be, one or more leeches applied, and the bowels more freely acted upon. Suppuration ought, if possible, to be prevented, in the neck especially, where it leaves an unseemly scar. In this situation, when matter has actually formed, the visible after-traces of the occurrence will be much less evident if the abscess be opened at the proper time, and in a proper manner, by the surgeon. The lymphatic glands, especially in weak or scrofulous persons, are apt to assume a state of chronic enlargement and slow suppuration. As the root of the evil is in the constitution, this must be invigorated in every possible way, by nourishing animal diet, with probably wine or malt liquor, by early hours, regular exercise, and change of air, to the coast, if possible. Cod-liver oil, half nutriment, half medicine, is most useful, and may also be rubbed on the enlarged glands with advantage. Iron, iodide of iron, bark, and tonic medicines generally, are all indicated.

Refer to — *Mesentery* — *Tabes* — *Glands* — *Scrofula.*

ABSORPTION.—Absorption is not performed by the "absorbents" alone; the blood-vessels take a considerable share, more particularly in the case of fluids; neither is the process confined to the interior of the body; it may take place through the skin, and thus a person who, from disease or accident, is disabled from swallowing fluids, may have his distress partly relieved by warm or tepid baths. In cases of shipwreck, or want of fresh water, fluid may, without injury, be supplied through the skin, by wrapping the body in clothes soaked with the sea-water.

ABSTINENCE.—Abstinence may be a great good or a great evil. In those who live fully and freely, eat much animal food, and drink malt liquor or wine, no remedy is more useful either in their peculiar ailments, or in general sickness, than abstinence. If the constitution be tolerably sound, nature will right herself, if left unopposed; many a dose of medicine may be omitted when such patients can be persuaded to "starve." More persons hurt themselves by excess than by the reverse, but not a few do themselves much injury by too great abstinence. They are generally individuals of weak digestive power, who, finding that the less they give the stomach to do, the better they feel, run into the extreme, and consume barely sufficient food to support health; and the general system suffers; the stomach, the liver, the bowels, the blood, and circulating system, are insufficiently supplied with stimulus, they act, and react on one another, the general tone is permanently lowered, and perhaps organic disease originated. This error has been fostered by medical authorities, and the case of Cornaro and others held up as examples of the health and longevity to be attained by extreme abstinence. Undoubtedly some men will retain health, and strength on much less nourishment than others, but with most, a tolerably liberal supply of varied food is requisite, and they cannot lower the standard, permanently, without injury. Living moderately, instead of stinting the whole body to favour the stomach, they ought by exercise, relaxation, and other means, by medicine, if requisite, so to strengthen the organ, that it may comfortably digest sufficient for the wants and support of the whole body. By acting on the reverse, nothing is gained eventually, for the stomach participating in the general debility, becomes daily more unfit for its office. The effect of abstinence, on those who practice it on religious grounds, is too often most injurious, and lays the foundation of organic disease of the stomach. *

Refer to — *Digestion* — *Regimen, &c.* — *Starvation.*

ACARI.—Ticks or lice, generally the result of filth, may shew themselves upon the head or body during sickness, notwithstanding the most scrupulous care, and some kinds of cutaneous eruptions and sores are with great difficulty freed from them. Washing and cleanliness are the great counteragents: after washing, equal parts of sal volatile and water may be used to the part. The itch insect is an acarus, also the harvest-bug.

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* ABSTINENCE.—Banting System—See Appendix.

Refer to—*Itch*.

ACCLIMATION.—One of the most wonderful endowments of the human constitution, is its power of accommodating itself to the great varieties of climate which prevail over the surface of the globe—of becoming acclimated. The Anglo-Saxon race appear to possess this power of constitution in an eminent degree, and with comparative impunity, fix their habitations amid the snows of the Arctic regions, or under a tropical sun. The constitution, it is true, on removal from a cold to a warm climate, may not all at once accommodate itself entirely to the change, but it is much more likely to do so quickly, and safely, if assisted by the judicious management of the individual. The ignorance and inattention which prevail upon the subject of acclimation are truly lamentable; great numbers of young men yearly leave this country for hot climates, without one word being said, or idea given them, as to the reasons for, and importance of certain rules for preserving health: under the change of circumstances, the habits of their colder fatherland are continued, and fever or cholera put an end to many a promising life, which a little rational information and advice might have preserved.[*]

The air and its temperature are largely concerned in the process of acclimation; the former is so much more rarefied in hot than in cold climates, that in the vital process of respiration, a comparatively much smaller quantity is habitually consumed; less oxygen is taken in, and the process of oxidation or combustion, which is continually going on within the body, is slower; we reasonably conclude, that by this process of combustion, the animal heat, in part at least, is maintained, but, of course, in a hot climate, a less active condition is sufficient to keep up the average temperature. The process of oxidation or combustion effected on the one hand by the oxygen inspired, is supported on the other by some of the elements—carbon and hydrogen—of the food. It is evident, therefore, that if an individual who has become resident in a hot climate, makes a practice of consuming as much nutriment as he used to do, without injury to health in a cold one, he must take more than is requisite, consequently the blood becomes overcharged with a load of noxious matter, which the rarefied air and inactive habits of warm countries do not tend to remove; and if the course be continued, an attack of illness, probably of a biliary nature, is the consequence. Even in temperate climates, the difference between the consumption of oxygen in winter and in summer is considerable. In Germany it has been calculated at one-eighth less in the latter.[*] How great must be the difference to those who permanently settle in tropical heats! certainly, sufficient to require much alteration in habits of living. The abundant animal diet, the fats and alcoholic drinks of the colder climes, all of which contain carbon and hydrogen in abundance, and assist materially to sustain temperature, must give place to the farinaceous and watery fruits of warmer regions, *vice versâ*, on going from a warm or temperate country to a colder—as the experience of all arctic travellers testifies—a larger proportion of animal diet, and that of a more fat or oily character, is requisite to maintain health and strength, and those only who are capable of consuming and digesting this full allowance, are fit for encountering the cold of the north. From what has been said, it is evident, how important due regulation of the food is to safe and speedy acclimation; it is the main element, and the one most under man's control. Modern science and discovery will render him much assistance, but study of the natural products of the soil, and of native habits, is essential.

The great increase of the functions of the skin, which takes place on removal to a warm climate requires attention; it renders the constitution more susceptible to the influences of a damp or chill air, such as frequently occurs in evening. The above remarks apply to our own climate in summer. The best preservative is woollen clothing of some kind, be it ever so thin, worn next the skin. Persons who from a warm climate, of which they are either natives, or to which they have become accustomed, come to reside in a variable or cold country like that of Britain, are peculiarly liable to affections of the chest or lungs, and not unfrequently become the subjects of consumption.

Refer to —*Air*—*Respiration Diet*.

ACID.—The general characters of an acid are, that it has a sour taste, reddens vegetable blues, and neutralizes alkalies. Acids are vegetable or mineral. The principal vegetable acids used in medicine are, acetic acid or vinegar, benzoic acid, citric acid, gallic and tartaric acid, and hydrocyanic or prussic acid;[†] the mineral acids are, hydrocholoric acid or muriatic, nitric acid or aqua fortis, nitro-muriatic acid or aqua regia, and sulphuric acid or oil of vitriol. They may be referred to under their respective heads. See *Lemon—Tannin.*

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[*] Liebig.

[*] ACCLIMATION.—The usual term is now Acclimatization.

[†] ACID.—To the above list should be added Dilute Phosphoric Acid.—See Appendix. ACETUM.—See Vinegar. ACID GALLIC.—See Galls. ACID TANNIC.—See Galls.

ACNE.—Acne is the disease of the skin which takes the form of what are popularly called pimples. Its seat is in the glands which secrete the oily matter. Pimples mostly occur on the face, or between the shoulders. They are more common in persons under forty years of age, are generally dependent upon some derangement of the digestive organs, and will frequently continue to recur in spite of medicinal or dietetic treatment. At the same time they are much more likely to be got rid of by light and cooling diet than by the reverse; although they appear, and obstinately continue, in the most abstemious. A smart dose of opening medicine is frequently followed by a crop of pimples in the predisposed, but the bowels should be kept regular. Local applications do comparatively little good! As good and safe an one as any, is a lotion made with a little, either of the flowers or of the milk of sulphur, rubbed up in a little soft water or rose water—two drachms to a pint.*

ACONITE, or MONKSHOOD, or WOLFSBANE, is a virulent poison, but in proper hands a valuable remedy. The most prominent symptoms of poisoning by monkshood, following irritation of the mouth and stomach, are general paralysis and loss of sensation. Of course, on the suspicion of such an event, medical assistance should at once be sought; in the interval, vomiting must, if possible, be produced by the readiest emetic; mustard, salt, or a feather down the throat. When vomiting has come on, or been induced, it should be encouraged by copious draughts of thin gruel or warm water, a little spirit, or wine being added if the depression be extreme. The extremities in hot mustard and water, and large mustard plasters down the spine will assist to rouse the nervous system. In this, and in other cases in which the natural sensibility of the skin is impaired, care should be taken that water is not used too hot, as the patient's feelings afford no guide in the matter.†

Refer to—*Emetics—Mustard Plaster—Bath.*

ACUPUNCTURE.—Acupuncture is a mode of treating some diseases by the insertion of needles into the body, at or near the seat of the malady. The needles, which are about two inches long, are fitted into a small handle. The method has long been known and employed among the Chinese. In this country it is chiefly used in rheumatic cases, and the relief is sometimes instantaneous. The pain of the operation is very trifling, and such as none need shrink from.

ACUTE.—Acute is a term used in contradistinction to chronic, as applied to diseases, to denote such as are characterised by violent symptoms. Inflammation of the lungs, or erysipelas, are acute diseases; consumption, or ringworm, are chronic.

ADIPOSE.—Adipose—Fatty.

ADHESION.—Adhesion is the growing together of parts of the body which are, or have been, separated, either naturally or artificially. A common cut unites by adhesion, and when it does so at once, without the formation of matter, it is said to unite "by the first intention." It is evident how essentially valuable this property of animal bodies must be; it is effected in the first place, by the exudation of a glue-like liquid, which soon becomes solid. For the exudation of this adhesive lymph, as it is called, some degree of inflammation in the parts is requisite. This tendency of certain inflamed parts to contract adhesions one with another, is often hurtful, or inconvenient. In some inflammations of the chest or abdomen it is especially so, and in burns of the fingers much care is required to prevent their being united in the progress of cure.

ADVICE, MEDICAL.—When a medical man is consulted, it is a tacit acknowledgment of confidence; that confidence should be implicit, or placed elsewhere. In the first place, care should be taken that the necessary directions given, are fully and accurately understood, being so, they should be, as fully and accurately followed out, unless some evident change in the condition of the patient, or in circumstances which the prescriber could not foresee, renders a departure from them necessary; but of this he should have as early notice as possible. There is no greater folly than to call in a medical man, and then, either from wilfulness or weakness of purpose, to controvert or neglect his prescribed rules; it is only equalled by that which conceals or deceives in the particulars of a case, and looks for benefit. It is too commonly the case, in illness, that officious persons are continually offering their counsel and opinions, disturbing the mind of the patient or of the friends, and perhaps undermining the trust reposed in the attendant practitioner; if it is reflected for one moment, how worthless such counsel and opinions must be, they would be less attended to than they are. Again, if proper confidence is felt in the judgment of the medical attendant, his requirements should be submitted to without remonstrance or grumbling. When doubt and uneasiness respecting the progress or prospects of a case intrude themselves upon the mind of those *most interested*, and a second opinion is desired, the matter should be openly, at once, stated to the ordinary attendant, and his views and wishes heard; but never should another be called in till this has been done; still less, even if a medical man can be found to demean himself so far, should a clandestine opinion be taken. Lastly, in sending for medical assistance, especially in country districts, as full an account of the symptoms of illness, or accident, as possible, should be transmitted by written note. The precaution must save time; it may save life.

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* ACNE.—For additional information see Appendix.

† ACONITE.—See Appendix. ADDER BITES.—See Poisoned Wounds. ADULTERATION OF FOOD.—See Appendix and Special Article.

AERATION.—Blood, during its circulation through the body, becomes impure in quality, dark in colour, and unfit for the support of the vital functions; being passed through the lungs by the powers of the heart, it undergoes purification, and the dark colour of the venous, is exchanged for the bright red hue of the arterial fluid, it has undergone "aëration"—it has robbed the air drawn into the lungs of a portion of its oxygen, and given off carbonic acid. This aëration of the blood is essential to the maintenance of life, if stopped entirely; but for a few minutes, death is the result. This fact is obvious, and known to all; not so, the injurious, ultimately fatal, effects of the imperfect aëration of the blood, to which thousands of our town population are daily and nightly exposed; living in a contaminated atmosphere, the vital fluid never fully purified, disease and shortened lives *must* be the result.*

Refer to—*Respiration—Blood.*

ÆTHERS are volatile liquids used in medicine as stimulants.†

Refer to *Appendix—Nitrous Æther—Sulphuric Æther.*

AFFUSION.—Affusion of cold water over the body has been employed by medical men in febrile diseases, more especially in scarlatina. The patient is seated naked in a tub, and a pailful of cold water dashed over the surface; he is then to be wiped thoroughly dry, and put to bed. The method is not much employed.

AFTER-BIRTH.—In medical language the *placenta*. It is usually discharged at a period varying from five to forty minutes after the birth of the child. There is always some little anxiety, both on the part of the patient, and of the medical attendant, until this concluding part of child-birth has been accomplished. Within the above time, in most cases, sometimes immediately after the child is born, the patient complains of an accession of labour pain, caused by the contraction of the womb which casts off the after-birth; at times expelling it entirely from the body, but generally propelling it so far towards the external orifice as to make its withdrawal perfectly easy. When all is as it should be, the business is concluded by the ordinary midwife without the least difficulty, at the same time, it must be remembered, that some of the most formidable accidents of the lying-in chamber are connected with the management of this part of its duties; and if a female only, be in attendance, should the slightest embarrassment occur, not one moment is to be lost in summoning proper medical aid; above all things, let the attendants beware of any attempt to force matters by pulling strongly at the navel cord—they can only do mischief. The chief danger to be dreaded when the after-birth is retained, is loss of blood or flooding; if this comes on to any extent, the patient must be kept as quiet and cool as possible, gentle but firm pressure must be maintained over the bowels generally, and especially over their lower portion by the bandage, and by the hand—cloths dipped in cold water are to be applied over the external parts and frequently changed; should extreme faintness occur, a little wine, or brandy, or sal volatile may be given in water, but stimulants must not be too readily resorted to. The retention of the after-birth is at times the result of irregular contraction, but often of adhesion to the womb; the possibility of such an occurrence, should make those who are advanced in pregnancy, careful to avoid anything which may press upon any portion of the distended womb, as for instance, the stays, and guard against habitually leaning, even gently, against any hard body. A careful attendant will always examine the after-birth: it ought to be nearly circular, about the size of a dinner plate, and should not exhibit any signs of tearing on the surface which is next the womb. The membranes which line the interior of the womb during pregnancy, are for the most part discharged along with the after-birth, and are more readily and neatly brought away, by giving the latter body a slightly twisting motion as it is withdrawn. If they are very tender, a portion may remain and pass off with the discharge; it is well to be aware of the fact, as persons are often needlessly much alarmed at this occurring a few hours or more after delivery. Occasionally, the after-birth is so placed over the mouth of the womb, that it must necessarily be detached in the first stages of labour; the case is always attended with danger, and cannot be too soon put under medical superintendence; it may generally be suspected, if simultaneous with the occurrence of labour pains, a free discharge of blood takes place, which is increased every time the pain recurs. In the event, as in the country, of any delay in procuring medical assistance, the measures recommended in the treatment of hemorrhage, in "Abortion," may be resorted to.

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* AERATED BREAD.—See Bread.

† ÆTHER.—Chloric Æther—See Appendix.

Refer to—*Child-birth.*

AFTER-PAINS, are the regularly recurring pains which women experience for a day or two after child-birth. They are rarely troublesome after a first confinement, but are apt to increase in severity at each succeeding one. After-pains are, in moderation, salutary, and are caused by the efforts of the womb to attain that properly contracted condition on which the woman's safety depends. If they are very severe, it is generally owing to the presence of clotted blood, which must be expelled before they moderate. A constant, unintermitting after-pain, coming on very soon after the termination of labour, is often symptomatic of internal flooding, and should be attended to accordingly. If after-pains are very severe, they are advantageously relieved by the administration of twenty drops of laudanum, which may be repeated, but if the amount of pain be moderate this is unnecessary. If the discharge is not profuse, a hot flannel to the lower part of the abdomen affords comfort. After-pains are often kept up after the first four-and-twenty or six-and-thirty hours by the bowels being loaded; a tablespoonful of castor-oil is at once a safe and effectual remedy. Too tight bandaging may aggravate after-pains.

Refer to—*Child-birth.*

AGE, OLD.—Although the powers of life may have previously shewn symptoms of decline, the period of incipient old age, is usually fixed in women, about the fifty-third, in men, about the sixtieth year; after this, it generally becomes evident that the vigour of prime is giving way, and that the powers of the constitution are no longer able to recruit themselves, or to sustain exertion with the same ease as formerly; diseases, too, peculiar to this stage of life, begin to shew their symptoms of approach, symptoms which can scarcely be too soon detected, or too carefully watched. As time goes on, the individual becomes more dependent upon the affectionate care, and equally important, the intelligent supervision of those around. The subject of the treatment of the aged has been a neglected one. A valuable work, by Dr. Day, has lately supplied the want of a special treatise upon it. With old age, increases the liability to such hereditary diseases as gout, gravel, rheumatism, apoplexy, and paralysis, and in women especially, to cancer. Now, the effects of excesses and of dissipation in early life, which may have been unfelt during the vigour of manhood, too often add to the natural infirmities. Whatever may have been the previous modes of living, it is always a dangerous experiment to make any material or sudden change in them after age has begun to tell upon the constitution, it should not be done but for important reasons, and under direct medical control. The natural sensations will gradually guide the individual to those modifications of previous habits, which accord with the altered structures and diminished powers; and this more particularly in the case of active or violent exertions, which the hardening and ossification of the various tissues, but more particularly of the coats of the arteries, render hazardous The weakened digestion of advanced life should be considered in the food, which, while it is nutritious, ought at the same time to be lightly cooked, and every thing like hardening avoided. Where the teeth are deficient, meat should be well divided, either by mincing before cooking, or by the knife after. The meals light, not at too long intervals. If the dinner be early, as it ought to be for the aged, who are not obliged to hurry off to business, supper, but a light one, should always be taken. The skin of old people is often most shamefully and disgustingly neglected, and no point in their management is more closely connected with their comfort and health; it should frequently be sponged with tepid water, and well rubbed afterwards with a rough towel to promote reaction. It ought at the same time to be carefully protected by woollen clothing; old people are most injuriously susceptible of the changes of external temperature, particularly cold; indeed, a few degrees fall in the thermometer, may be the immediate cause of death in very advanced life, and the average number of old people affected by apoplectic or paralytic seizures, is apt to be notably increased at the setting in of frost. Exercise by the old should be continued as long as they are able to take it, but never extend to fatigue. Sleeplessness, so frequently and loudly complained of by aged people, is, in some respects, natural; as life advances, nature would seem to require less of the soft restorer. It is not well to endeavour to overcome it by narcotic medicines. If possible the time of sleep should, by habit, be kept to the early hours of the night, and, in summer especially, the tedium of the early morning may be relieved by reading, knitting, sewing, or some other light employment, even in bed. In advanced life, the urinary organs require the greatest care, the call to relieve them should never on any account be delayed; on the slightest symptoms of derangement, proper medical advice ought to be taken at once, it may prevent evils which too often render the latter years miserable. It is most important for old people to give themselves time to empty the bladder thoroughly; they do this with more difficulty than the young. The medicines prescribed for the aged should be, whenever it is possible, of a warm character, to counteract the tendency to flatulent distension: large doses of mercurials, neutral salts, strong purgatives are all to be avoided. Alkalies, even when given to counteract a tendency to the acid of gout or gravel, must be carefully watched, and not too long continued; they may produce the opposite state from that which they are intended to correct, a much greater evil. Pills, especially if at all hard, are apt to pass through the bowels unchanged. When an aperient is required by an old person, none is more suitable than a moderate dose of infusion of senna, to which a little ginger, or a teaspoonful of bark or of gentian is added. Six to eight drachms of the compound decoction of aloes answers well, if there is no great tendency to piles. When the bowels are habitually constipated, a clyster, of a pint to a pint and a half of warm soap-water, must be given occasionally as required, this counteracts the great tendency to fæcal accumulation. The doses of medicine ought always to be diminished after the period of incipient old age.

Refer to—*Diet—Purgatives.*

AGUE,* or INTERMITTENT FEVER, is a disease which prevails chiefly in marshy districts; the production of that condition of the atmosphere which originates it, being generally associated with the presence of decaying vegetable and animal matter. To this peculiar atmospheric state, the terms marsh miasma, and malaria, have been applied. A certain degree of heat appears necessary for the origination of malaria: ague is unknown in cold regions, and becomes more virulent the nearer the tropics are approached. The malarious poison does not seem to extend to any great height above the surface of the marsh, and persons who are compelled by circumstances to sleep in a locality where ague prevails, are more likely to escape the effects, by occupying rooms in the upper stories of the house. Moreover, marsh poison may be carried a considerable distance by the wind, the leeward side of a malarious district is always the most dangerous. High and thickly grown trees have the power of attracting and retaining marsh miasmata; their vicinity, therefore, in malarious districts, at night, and especially as sleeping stations, is to be avoided; at the same time, the fact is taken advantage of by the residents in such districts, for if they can place their dwellings so that a belt of trees intervenes between them and the marsh, they are safe. Strangers are more likely to become the subjects of ague than those who are regularly resident in the district; the latter, however, if the district be a decidedly malarious one, even if they do not suffer from regular ague, are scarcely ever healthy. In former times, in England, ague was a much more general disease than it is now that drainage has been so extensively established; and in many districts from which it has entirely disappeared, the tradition of it still lingers in the language of the people; it is found almost entirely on the eastern coast of the island, in the vicinity of low, marshy, occasionally flooded grounds, in the counties of Lincoln, Norfolk, Kent, Essex, and Cambridge. An individual, whether in this country or abroad, should consider well before placing himself within the influence of a malarious atmosphere; no worldly advantage can be a set off against the miserable condition of a man subject to periodic ague. The emigrant, in choosing the scene of his future labours, ought to make himself very certain upon this head, and when he is assured, should be very careful, especially in America, not to expose himself, even for a night, to the influence of an ague district if he possibly can avoid it. One of the most remarkable features of intermittent fever, is its tendency to return upon those who have once suffered from it. An east wind, indiscretion in diet, anything which lowers the tone of the general health, may bring back the enemy. When an attack of ague is about to come on, the person complains of general lassitude, oppression about the stomach, and general chilliness, which at last amounts to actual shivering, with chattering of the teeth, when the disease is fully established. By this time, the features are pinched and blue-looking, and the whole body seems shrunk; the pulse is feeble, the tongue pale; sometimes there is vomiting; there may be stupor or convulsive action. Flying pains are felt throughout the head and limbs. After a certain time, this first—the cold—stage, gives place to the second, or hot; transient heat-flushes become more frequent, till at last the coldness is entirely superseded by a state of fever, with quick full, pulse, hot skin, furred tongue, and thirst, with high-coloured urine, generally throbbing headache; at length the third stage brings relief, by copious perspiration, the symptoms of disease subside to the level of health, and the patient remains comparatively well during what is called the remission, that is, until the next attack, which may come on in twenty-four, forty-eight, or seventy-two hours, or at longer or less regular periods. The periodicity observed by the attacks of ague is one of the most marked features of the disease, and the terms quotidian, tertian, quartan, are applied to denote the interval of return. The more frequent the paroxysms, the more serious the character of the malady, as a general rule. The marked features of ague, its occurrence in particular localities, and its tendency to return, render it one of the diseases most easily and certainly distinguishable by the unprofessional, whilst, at the same time, the peculiar circumstances under which it often occurs, and the comparatively regular modes of treatment, permit of timely assistance being extended to the sufferer, in the absence of regular medical advice. When an individual is attacked with the cold stage of the fever, the application of external warmth, is at once the most natural and beneficial remedy; this may be done either by means of bags of heated bran, salt, or any other convenient method; or if a vapour-bath be at hand, it may be used, or an extempore one made, by seating the patient, wrapped in a blanket, on a chair over a bucket containing hot water, which is kept steaming, by means of heated stones thrown into it from time to time. Warm, diluent drinks may be freely allowed, weak tea, barley-water, and such like; only in a very few debilitated cases may a little wine be added. Emetics have been given at this stage, but are not advisable; a brisk purgative is, however, required at the commencement; none is more convenient than a pill containing one grain of calomel, and three grains of the compound rhubarb pill. Of these, two may be given to an adult. During the hot stage, opium must be given; it may be administered as laudanum, in one dose, averaging full five-and-thirty drops, to an adult; the diluent drinks being freely allowed at the same time. The sweating stage is to be encouraged until the feverish symptoms are quite gone, if it then continues, wiping the skin dry, and changing the linen will put a sufficient check upon it. The individual paroxysm being over, the object is, next, to cure the disease, and prevent the recurrence; for this purpose, the one remedy, Peruvian bark, as formerly given, or its essence, quinine as now administered, is generally sufficient. If the bowels are not thoroughly cleared by the calomel and rhubarb, this point must be ensured by a full dose of castor-oil or some purgative, and two-grain doses of the sulphate of quinine in solution every five hours, immediately commenced with, and continued night and day, paroxysm or not. The dose may require increasing to three grains, or even more, but perseverance with the quinine will most generally succeed. The chief objection to this remedy is its high price, and others cheaper have been sought. Arsenic is the most to be relied on, but not in unprofessional hands. Sulphate of zinc, or white vitriol, may be given in six-grain doses twice or three times a day with safety, and often with success. The use of either of the remedies recommended must be continued for a week or ten days after the disease appears to have ceased, as relapse is apt to occur, but in the case of quinine, should headache, deafness or noise in the ears be complained of, the administration must be stopped or greatly moderated.

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* AGUE.—Nitric Acid has been recommended in the treatment of ague; it might be tried in the absence of more established remedies. Twenty-five minims of the dilute acid of the British Pharmacopeia may be given every six hours in a wine-glass full of water, or some bitter infusion, such as chamomile, which is also said to exert some power over ague.

Such are the principal general modes of the treatment of ague which may safely be had recourse to by the unprofessional, and with them, no one who is resident in a malarious district, no intending emigrant who may chance to find himself in such a district, should be unacquainted. At the same time, however useful a knowledge of these general principles may be, it will not be everything in all localities; in each, especially abroad, the disease assumes varied features which can only be properly known and treated by the residents. Ague may resist every remedy, or may frequently recur, as long as the patient resides within the malarious influence, or having been contracted, it may be kept up by the air of another district, particularly an east one in this country, although it could not be produced by it. In such a case, change to a dry and more genial climate is necessary, for though ague is not in Britain immediately fatal, its continuance undermines the constitution, and originates serious disease. Ague is most general in spring and autumn, the latter being the more dangerous period of attack. Those who are temporarily or permanently compelled to reside in a malarious district, will do well to keep up the general tone of the system, by sufficiently generous living, or a moderate use of fermented liquors: they should protect the skin by woollen clothing, avoid night air, or if obliged to go into it, protect the nose and mouth by a handkerchief, and never go out early in the morning without taking food, or better, some warm fluid, previously. A few doses of quinine should be taken occasionally.

Refer to—*Quinine—Zinc.*

AGUE.—(NOTE ON.)—Since the above was written, a paper has appeared in the Edinburgh Journal of Medical Science for October, 1851, by Mr. Kerr, of Canada, strongly recommending from his own experience and that of others, the use of a preparation of iron in the treatment of ague. The recommendation is well supported by evidence, and is a most important fact to all who reside, or are likely to reside in aguish districts. The salt of iron is named persesquinitrate of iron. Mr. Kerr gives the following method for its preparation, which is simple enough to be followed by any careful person. "Take of iron wire, that known by the name of number 17, one ounce; nitric-acid three fluid ounces; water one hundred and seventeen fluid ounces. Mix the nitric-acid with fifteen ounces of water in an earthenware or glass vessel; put into it the iron wire broken into several pieces, *and so twisted as to extend into every portion of the liquid;* place the vessel in a moderately warm situation; and in eight to twelve hours the solution will be completed, when the liquid is to be poured off the remainder of the wire, which should always be in excess. The residue of the water is now to be added, so as to increase the solution to one hundred and twenty ounces. The process may be carried on out of doors, if it be not cold weather, on account of the fumes, or at least placed where these may be carried off." Mr. Kerr lays down the following method of treatment:—"If the patient has paroxysms of ague, ten grains of sulphate of quinine, divided either into two or three portions, ought to be given before the accession of the paroxysm,—say one portion the preceding night, and two, with two hours between them, the following morning, each along with a teaspoonful of persesquinitrate of iron. This treatment will most probably prevent the accession of the paroxysm. The succeeding treatment consists in giving a teaspoonful of the persesquinitrate, thrice a day, about an hour before meals. In many individuals, quinine suspends a paroxysm of ague only for a fortnight or thereabout, the disease returning thereafter, every second day as formerly. If this relapse be anticipated, by a few grains of quinine, given as the first, ague will be again prevented. Patients who, from previous experience, know that the disease will return at the end of a fortnight, ought therefore to take quinine at the end of this period, and to persevere in the use of the persesquinitrate till they are restored to perfect health. Possibly, five out of twenty may require a third quantity of quinine at the end of a second fortnight, when the patient's health ought to be so much improved by the persesquinitrate of iron that the disposition to relapse shall have altogether ceased." "If the state of fever in, or paroxysm of, ague has commenced, two or three teaspoonfuls of persesquinitrate of iron will greatly abridge the duration of the distressing headache and pains in the back and limbs, and often remove vomiting. Besides using the medicine, the patient ought to avoid fatigue and exposure to rain, till his health and strength are re-established. Constipation must of course be removed."

AGUE, CAKE.—The enlarged spleen which is frequently the result of repeated attacks of ague. It forms a perceptible tumour in the left hypochondriac region of the abdomen.

Refer to—*Abdomen—Spleen.*

*AIR AND ATMOSPHERE.—The *air* in which we live and breathe consists simply of a mechanical mixture of the two gases oxygen and nitrogen, in the proportion of twenty-three parts of the former, to seventy-seven parts of the latter—by weight—in every hundred. The *atmosphere* not only consists of this air, but also includes various other substances; of these, the principal, are watery vapour and carbonic acid; ammonia and nitric acid exist in minute proportions, and exhalations of various kinds and amount, according to situation and circumstance. The weight of our atmosphere amounting to fifteen pounds upon every square inch of surface exposed to it at ordinary levels, exerts a pressure of nearly fourteen tons distributed over the surface of every grown man; we do not feel this, because it is counteracted by the aëriform elasticity of the fluids contained within our bodies; but when the pressure of the atmosphere is taken off any portion of the surface, as by an exhausted cupping-glass, it is the elastic counteracting force within the body which pushes up the covered portion of the skin. The prime, essential constituent of the atmosphere is oxygen—the sustainer of animal life, its dilution with four parts of nitrogen, exactly adapts it to our requirements. The proportions of oxygen and nitrogen in the atmosphere do not vary, its quality is chiefly altered by the amount of watery vapour, carbonic acid and other gases, and exhalations, and by the rarefying or condensing effects of heat or cold. The importance to health of a due supply of pure air, and the knowledge of the principal sources of its vitiation, is becoming every day better understood and acted upon.

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* AIR.—For information on recent investigations on air and atmospheric influences, and on purity of air in various situations—See Appendix.

The most constant and extensive source of impurity is animal respiration. Every breathing animal, man included, is continually drawing into the lungs, air, and the next moment giving out, instead of the life-sustaining oxygen, poisonous carbonic acid. It is evident from this, that if an individual or individuals are enclosed in a room which possesses no means of ventilation, in other words, which has not its air continually changed, the air contained in that space must become unfit to be breathed; health will suffer, life may be extinguished. The headaches and uneasy sensations caused by close crowded rooms, are familiar to all; the tragedy of the black hole of Calcutta, and that of the Irish steamer a few summers ago, are notorious. In the latter, sixty persons fastened down in a close small cabin, perished in less than six hours. These individuals were actually poisoned by the carbonic acid gas they had themselves expired. Such effects are too obvious to require comment; it is the gradual undermining of health, the slow poisoning of those who habitually breathe a vitiated air, to which attention requires to be drawn, and more particularly in the case of sleeping apartments. When it is considered that one per cent. of carbonic acid in the air will cause uneasiness, that ten per cent. is the probable limit where immediate danger to life commences, and that every adult man vitiates at least two hundred and sixteen cubic feet per hour of the pure element, it is needless to say more upon the necessity for proper ventilation; moreover, exhalation from the surface of the bodies even of the healthy, is constantly adding a considerable proportion to the other sources of atmospheric impurity. Notwithstanding facts like the above, people lie singly or in numbers for six or eight hours every night, breathing over and over again the same contaminated atmosphere, they sleep heavily, and rise in the morning, wondering perhaps that they feel even more languid than when they lay down at night.

The notorious cases of low lodging-houses, and other such resorts are not now alluded to, but the less suspected nurseries and well-furnished apartments even of the higher classes, many of which, with door, window, and chimney closed, and heavy curtains drawn round heavy sleepers, are perfect hot-beds of disease. It is time such ignorant, culpable disregard of all the principles of health should cease, we spend on an average one-third of our lives in our bedrooms for the purpose of refreshing the body, how important then to have them as airy as possible, with free entrance for the good air, free exit for the deteriorated. If the door of a room *must* be fastened at night, let it be by a chain-bolt, or if it must be locked let the upper panels be perforated, or the window fitted with a pane of perforated glass or zinc—at all events let air in somehow. Keep the chimney open that it may carry off the impure; this it will do, particularly if fitted with an Arnott's ventilator. Breathing the air in crowded assemblies of people is only occasional, and generally for a short time; it can do comparatively slight mischief, the air we breathe for one-third of our lives cannot be vitiated without the most serious injury to health, and curtailment of life. Many a mother has mourned over the untimely grave of a child, little suspecting how the close hot nursery had undermined the young constitution, before the fatal cold or epidemic snatched her treasure away.

Diet, clothing, exercise, all claim serious attention, still more, for old or young, the purity and ventilation of the sleeping apartment.

Burning candles or lamps vitiate air in the same manner as the respiratory process of animals, they consume oxygen and form carbonic acid, consequently, they are undesirable in close rooms at night, or indeed at any time, if there is insufficient renewal of the air. A fire in the bed-room is recommended as a means of ventilation, and undoubtedly is so as long as it is burning briskly, if kept well replenished, and if the chimney draws well, but when, during the hours of sleep, the fire gets low, and the draught up the chimney is diminished, the air vitiated by the burning embers is very apt to become diffused through the apartment, and with it, sulphurous and other fumes. This point is one frequently overlooked, and from the very injurious consequences which may result, requires strict attention. Plants or flowers kept in a sleeping apartment are another not unfrequent source of impure air, for although living vegetation under the influence of sunlight has the power of abstracting carbonic acid from the atmosphere, which in fact it continually purifies from the effects of animal respiration, in darkness, the case is reversed; not only do leaves cease to absorb carbonic acid, but they give it out. When it is remembered, that in a school in which pupils had been taking lessons for three hours, with doors and windows closed, the amount of carbonic acid has been found to be eight times the average; that much less than this causes uneasiness, that a little more may cause death, enough has been said, to prove the necessity for preserving the air we breathe in a state of the highest possible purity, and of avoiding every known source of deterioration. In the room of sickness, the necessity is increased tenfold, both for the sake of the patient and of those around, the air must be kept pure. In the few cases in which ventilation cannot be had recourse to, Liebig recommends the use of slacked lime spread on a board, this quickly absorbs the carbonic acid of any closed space in which it may be placed, and fresh air must rush in through the crevices to supply the place of the former gas. It scarce requires mention, that all decomposing substances in whatever situation, cannot fail to render the air impure—moist vegetable matter particularly; damp decaying wood, sawdust, straw, &c., all exhale carbonic acid, and in close places may also originate serious disease. It is worthy of note, that whilst decomposing *dead* animal matter does not seem so materially to affect health, the morbid exhalations from living animal bodies poison the atmosphere to such an extent as to occasion the most malignant fevers.

Locality it is well known exerts much influence over the purity of the atmosphere; the air of towns must of course be less pure, principally from admixture of sulphurous vapour, the product of combustion. The air of the coast is stimulating and strengthening, probably in some measure owing to its containing minute portions of the sea constituents. The air of all damp low situations is particularly unhealthy; doubly so if the situation is surrounded by elevations which prevent atmospheric changes. Intermittent fevers, and diseases of a neuralgic character prevail in these places; the noxious influence is generally more potent near the ground, and those who are compelled to reside in such localities, may escape much evil by occupying rooms as elevated above the soil as possible.

Dry air is generally good, but it may be too dry, and produce disagreeable effects upon the skin; chapped hands, &c. Moist air, when combined with cold, is worst of all. The state of the atmosphere varies much in the twenty-four hours. The fresh air of early morning, salubrious to the strong and healthy, requires to be dried and warmed by the sun before it is suitable for the invalid; even in summer, in this climate, this is scarcely the case before eight o'clock. Exposure to the damp air of evening and night must always be shunned by the weak in health: so noxious is it in some tropical or marshy regions, that one night's sleep within its influence is certain to be followed by an attack of illness. That a uniform temperature and unchanging climate is not so well adapted to maintain health as a variable one, is admitted on the authority and experience of Sir James Clark, Dr. Combe, and others.

Refer to—*Oxygen—Carbonic Acid—Nitrogen—Respiration—Ventilation—Perspiration, &c.*

ALBINO.—An individual in whom the usual colouring matter of the body is absent. The complexion is unnaturally white, the hair white, the eyes appear pink. White rabbits with red eyes are albino rabbits. Albinos are rare among Europeans, but are found more frequently among the negroes.

ALBUMEN.—One of the principal constituents of the animal body. The white of the egg is nearly pure albumen. In the serum or watery portion of the blood it exists in large proportion, and may be coagulated from it by heat, like the white of egg. When it is reflected, that from the albumen of the egg—for the yolk is albumen also—the perfect chick is constructed, its blood, muscles, bones, nerves, it will be seen how great must be the nourishing power of this substance. Besides existing in the blood, albumen forms a considerable proportion of the animal solids; it also exists in the vegetable kingdom, more especially in the grains and pulses. Heat first coagulates, and then hardens albumen, thus impairing its digestibility. A reason for avoiding over-cooking meat, as well as eggs.*

ALCOHOL, the principle on which the characteristic properties of fermented and distilled liquors depend, is formed from grape sugar which has undergone the vinous fermentation. It is a limpid, colourless, highly inflammable liquid, of penetrating smell; it is rarely, if ever, used either as medicine or beverage uncombined. Distilled spirits, wines, malt liquors, and fermented liquors generally, owe their intoxicating and stimulating properties to the alcohol which they contain in more or less proportion. In medicine, alcohol is used to form tinctures, that is to hold in solution certain vegetable, and, in a few cases, animal substances, which are most conveniently administered in this form. Some of these, such as camphor, will dissolve to the extent required, only in strong alcohol or rectified spirit, for others a more diluted alcohol or proof spirit is sufficient. In addition to its solvent properties, alcohol is likewise valuable from its power of preserving the infusions or solutions, to which it is added. One ounce by measure of alcohol, mixed with a pint of water, forms a good evaporating lotion to be used when it is desirable to ammonia are *the* three alkalis; the two first are, fixed, the last is volatile.

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* ALBUMEN.—Albumen, as it occurs in the uncooked egg, has the important property of being an antidote to various mineral poisons, such as corrosive sublimate, blue vitriol or sulphate of copper, and chlorine. It has also been proposed as a remedy in strychnine poisoning.—See Copper, Mercury, etc.

Refer to—*Potash—Soda—Ammonia.*

ALMOND.—The sweet almond as an article of food is not digestible; when triturated with gum and sugar, so as to form an emulsion, it constitutes a pleasant demulcent vehicle for medicine, in affections of the chest or mucous membranes, and may be taken freely. The bitter almond is most decidedly unwholesome, unless in very small quantity as a flavour; and some persons cannot even take it in that way with impunity. The essential oil of bitter almond contains after distillation, prussic acid in sufficient quantity to act energetically as a poison. A single drop of the pure oil would be dangerous. Cases of poisoning from eating bitter almonds have occurred: the symptoms and treatment are very similar to those in poisoning by prussic acid. The strong peculiar odour of the oil will in most cases betray the accident.*

Refer to—*Prussic Acid.*

ALOPECIA.—See Baldness.

ALVEOLUS.—The socket of a tooth.

ALOES.—One of the most useful and extensively used purgatives, is seldom given alone, and is scarcely employed domestically except in its combinations, particularly in pills; indeed, there are few active aperient pills into the composition of which aloes does not enter. The action is certain, and, except in peculiar cases, easy and safe. In pregnancy, and where any tendency to piles exists, the use of aloes is better avoided. The action of the medicine upon the stomach is, in small doses, tonic; but the principal effect of aloes is upon the lower bowels, the movements of which it appears to excite, without increasing the discharges; it seems to act similarly to the bile, and when that is deficient, as a substitute for it. The preparations into which aloes enters are generally better provided ready made. Of the pills, the simple aloetic, the compound rhubarb, and the compound colocynth are the best; the last is the most active. Of any of these, one or two pills, three grains each, may be taken at bed-time as an average dose. The compound decoction of aloes is a most excellent form, and may safely be given when quick action is required, in one to two ounce doses. For old people, it often answers well, and is preferable to pills. It is made as follows: take of aloes; saffron; and myrrh, bruised, of each one drachm and a-half; extract of liquorice seven drachms; carbonate of potass three scruples; water thirty fluid ounces. Mix the whole together, and boil down to twenty fluid ounces. Filter, and add compound tincture of cinnamon seven fluid ounces. Aloetic purgatives may be taken habitually for a long time without an increase of the dose being required; the continued use, however, may induce piles.

Refer to—*Purgatives—Pills.*

ALTERATIVE is a rather indefinite term applied to certain medicines which are supposed to have the power of changing the varied disordered actions of the body, without producing any sensible effect when taken. Mercury given in small doses, more particularly as it is in Plummer's pill, is perhaps the best example of a medicinal alterative. There is, however, an alterative preferable to medicine—obedience to the laws of health. Temperance in eating and drinking, exercise, attention to the state of the skin, and to the ventilation of sleeping-rooms especially, are alteratives which every one may employ. A course of medicinal alteratives must be left to medical direction.

ALUM is a compound salt of sulphuric acid, potash, and alumina. It is a powerful astringent, and is used as such in medicine. In bleeding, especially as from the nose, lint dipped in a strong solution of alum, and applied to the part as a plug, will often stop the flow, or in the case of leech-bites, the powder of burnt alum may be sprinkled upon the puncture. Internally, alum is given in cases of protracted diarrhœa, and in hæmorrhage from the lungs or stomach, &c. In case of an individual being attacked either with coughing up, or vomiting of dark blood, in the absence of medical assistance, alum, which is generally easily procurable, may be given in doses of from five to twenty grains every two or three hours. In cases of that painful spasmodic affection of the bowels — named painter's colic—to which those who work much among lead are liable, alum, has recently been found of much advantage, and might safely be given provisionally, by an unprofessional hand, to ameliorate suffering — the dose from ten to twenty grains every three or four hours. As an astringent gargle in relaxed sore-throat, alum is most useful in the proportion of two drachms to half a pint of water. Alum may be given in pill, but better in solution, in distilled water flavoured with cinnamon, or some aromatic. Alum whey, made with five grains of the salt to every ounce of milk, and the curd strained off, is a pleasant and convenient form:—a teacupful to be taken three times a day. A few grains of alum, agitated with the white of an egg, form a coagulum, which put between two folds of muslin, is used with benefit to the bed-sores of the sick.

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* ALMOND.—The commonly used "Almond flavour" has proved poisonous, and should be kept out of the way of children. In a case of poisoning from bitter almonds the treatment would be similar to that for prussic acid, with first the use of an emetic, should the almonds themselves have been eaten.—See Prussic Acid. ALOPECIA.—See Baldness—See end of letter B., p. 78.

Refer to—*Hæmorrhage.*

ALVINE.—Connected with the belly—as alvine discharges, concretions, &c.

AMAUROSIS, the gutta serena of Milton, is total or partial blindness, depending upon disease of some portion of the nervous connexions of the eye. The retina, the brain, the connecting nerve, may any of them be the seat of the disease. The appearance of the eye is unaltered beyond the dilatation of the pupil, which gives it a peculiar dark, deep look, but the expression is unmeaning. Persons who exercise the eyes much on minute objects, or who are much exposed to the glare of intense light, are liable to become amaurotic, but in such cases, the disease is mostly the result of some amount of inflammation going on within the eye itself, and if taken in time, is remediable. A person threatened with amaurosis, first observes, in the day time, dark motes or specks floating, as it were, before the sight, at first distinct from one another, but gradually becoming connected, and forming, as it were, a thicker and thicker veil as the sight becomes obscured. In the dark, the motes or specks frequently appear luminous. Sudden flashes of light appearing is a symptom not unfrequent; there is usually pain in the eye and head. It must not be supposed, however, that every one who sees motes or specks is becoming amaurotic, some persons have this peculiarity of vision, either habitually, or whenever the stomach is disordered. In addition to the causes above stated, amaurotic blindness, may be the result either of overfulness of blood, or of the contrary condition, of disease of the brain, of indigestion, sexual excess, hysteria, gout, overnursing, &c. In such a disease, requiring the nicest discrimination of the medical practitioner as to cause, before he can adopt appropriate treatment, no unprofessional person is qualified to interfere. An individual threatened with amaurosis, cannot too soon submit himself to skilled advice, and should let no consideration stand in the way of his doing so as quickly as possible Should distance, or any unavoidable cause, occasion delay, all exercise of the eye should at once be stopped, the general health and condition of the bowels attended to, and unless there is evidence of *extreme* weakness, all stimulants avoided; if the patient is a nursing female, the child must be weaned at once. Amaurosis, or blindness without obvious cause, coming on suddenly in a person of *full habit* of body, is always a grave symptom, and, as in such a case, every minute may be valuable, if medical aid cannot at once be got, six or eight leeches may safely be applied to the temples, an active purgative of twenty grains of jalap, and four or five of calomel is to be given at once, and after the leeches, cold applied to the head; perfect quiet being observed. All farther treatment in this disease must depend on the individual judgment of the medical attendant.*

Refer to—*Eye—Brain.*

AMENORRHŒA. See MENSTRUATION.

AMMONIA.†—VOLATILE ALKALI. —SPIRIT OF HARTSHORN.—A gas in its pure state; is used in medicine in solution, either in water or alcohol, or as a salt, in combination with carbonic acid or acetic acid. In the former case, it constitutes the common carbonate of ammonia; in the latter, the solution of acetate of ammonia, known popularly as "spirit of mindererus." The solution of ammonia in water is used of two different strengths, one very strong, generally employed externally, the other more diluted—"diluted solution of ammonia"—given in cases of fainting, depression of the system, or as a stimulant antacid in indigestion; or in spasm, in doses of from five to twenty drops in water, or other simple fluid. In cases where very rapid effect is required, ammonia is advantageous, but when there is partial insensibility, care must be taken that choking is not produced in the administration. When combined with olive oil, ammonia forms a most useful, and generally used stimulant liniment. Two parts by measure of oil, to one of the diluted solution of ammonia, is a convenient strength; or equal parts of each may be used if a stronger form is requisite.* Poisoning by ammonia sometimes occurs, particularly by mistake: the best and most convenient antidote is vinegar, or any vegetable acid.

Carbonate of ammonia is an instance of two gaseous bodies forming, by their union, a firm solid. The actions and uses of this salt are the same as those of ammonia; it may, however, be given in pill; if in solution, five grains dissolved in three tablespoonfuls of water is an average dose.

The aromatic spirit of ammonia, or sal volatile, is perhaps the best and most convenient form for internal administration, certainly so for popular use. It keeps good any length of time in a stoppered bottle; and the dose, from a half to a whole tea-spoonful, in three parts of a wine-glassful of water, is easily and readily administered. Solution of acetate of ammonia, popularly known as "spirit of mindererus," is a very certain and safe diaphoretic, producing free perspiration. In colds and slight febrile ailments, it may be given without fear, in table-spoonful doses diluted with water, repeated every few hours, its effect being assisted by warm drinks and *confinement* to *bed*.

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* The former is the "Ammonia or Hartshorn Liniment" used in England and Scotland, the latter in Ireland.

* AMAUROSIS.—A case is recorded where the disease disappeared after the expulsion of a tape worm.

† AMMONIA.—Compound Spirit of, or Sal Volatile—According to the Report of the Lancet Analytical Commission this much used medicine is met with in the shops, of most variable quality, not only as regards the amount and quality of the spirit, but also of the ammonia. The aromatic ingredients also vary greatly, Sal Volatile cannot be good and cheap.

AMMONIAC GUM.—A stimulant expectorant, used also in the form of stimulant plaster.*

AMPUTATION can never legitimately fall within the scope of unprofessional surgery, except when it is occasioned by violent accident; and when a longer or shorter time *must* elapse before surgical assistance be procured. The immediate danger in such cases is fatal hæmorrhage or bleeding; but, fortunately, from the usual nature of the accident, this does not occur to so great an extent as might be expected: the bruising or tearing which generally accompanies the severance of the limb, acts as a preventive. The first thing to be done in such an accident, if there is much bleeding, is to tie a handkerchief, a garter, or band of some kind, round the limb, between the bleeding points and the body, and if a pad can be placed over the trunk of the main artery, so much the better. It is better not to attempt to wrap up the wound itself too soon, it should be freely exposed to the air; there is no better stauncher of blood than a cool breeze: above all things, the bathing with water, especially warm water, which is so frequently done, is to be avoided. In addition, the wounded member should be elevated above the level of the body. When the *bleeding has ceased*, which it will almost certainly do, if these means are properly attended to, a soft linen cloth, or cotton, if there is no linen at hand, should be placed over the wound, the patient kept quiet in a recumbent posture, with the limb slightly but easily elevated, and nothing more done until the surgeon's arrival. No mention has been made of the method by which the surgeon secures a cut artery by tying; it is not a procedure to be attempted by the unprofessional, except in most extreme circumstances, such as the certainty of no medical assistance being procurable for many hours, it might be days. In such a case, it would be impossible to keep the tight band round the limb without mischief ensuing: by slightly relaxing it, after some reaction has come on, the situation of any arteries likely to bleed would be made evident by their immediately doing so. A slender but firm hook, or pair of small forceps, should be used to pull forward every bleeding point in succession, so far as to allow of a ligature of silk, or fine twine, being tied around it by a second person. The cessation of the flow of blood will indicate whether this has been done effectually; at the same time, the band round the limb must not be removed, but only relaxed, and left so that it can be instantaneously tightened, should hæmorrhage return. In such an extreme case, it might be almost a matter of necessity to detach a limb, the bone of which had been crushed through and the main artery severed, by a few strokes of a sharp knife. Of course, after such an accident, watch, with light, must be kept up during night. Should heat and inflammation come on, cloths dipped in cold water may be freely applied.

Refer to—*Artery*—*Hæmorrhage*—*Tourniquet*.

ANÆMIA.† CHLOROSIS. — A condition of constitution, in which the quality of the blood is deficient, in its red globules, or colouring portions more especially. It is common in young females, especially of scrofulous habit. The pallor of all those portions of the body, such as the lips, which are usually well coloured, sufficiently indicates the disease. Anæmia may arise from accidental causes, such as deficient nourishment, unhealthy situation, extreme loss of blood, or may be of constitutional origin. In the former case, it is generally quickly recovered from, if the constitution be a good one, under the use of iron and good living; in the latter case, it often requires long and patient perseverance in these and other means to effect a cure. General languor and listlessness, very heavy sleep, headache, mental debility, impaired, capricious, or depraved appetite, constipated bowels, swelling of the feet, are the general accompaniments of anæmia; the monthly secretion is either absent or very pale. The primary cause of anæmia is still obscure, but the direct cause of the symptoms is undoubtedly poverty of the blood, and to improve the vital fluid, must be the great aim of treatment. The bowels should be kept open, not purged, by some mild aperient, such as the compound rhubarb, or colocynth pill, and ten drops of the muriated tincture of iron, or two grains of the ammonic tartrate of iron, given in a wineglassful of water twice or three times a-day. If the appetite is deficient, and does not improve, a dose of tonic bitter, quinine, salicine, or gentian, must be given along with, or substituted for one dose of iron. Cod-liver-oil is also useful. The diet must be generous; meat twice a-day, eggs if preferred, puddings in small proportion, and bread partly substituted for vegetables. Malt liquor, especially porter, to the extent of one of the usual pint bottles, should be taken, in divided portions, daily, or a couple of glasses of port-wine, if the former disagrees. An anæmic patient ought to retire to rest by ten o'clock, and to rise, as a general rule, by half-past seven, but ought never to delay breakfast beyond the mere time required for dressing; going out before the meal is quite out of the question, and, indeed, in some cases, where there is a tendency to fainting, it is better to have a cup of coffee, or warm milk, before rising, and, even to this, as a temporary remedy, it may be requisite to add a teaspoonful of brandy. The skin must be attended to, but by *tepid* sponging only. The bed should be a hair mattress. Exercise in the open air on foot or horseback, must be regular, but not carried beyond comfortable fatigue. Change of air to the sea-side, or to a chalybeate spring, is of great service. Mothers are often anxious about the non-appearance of the monthly discharge; its absence is but a symptom of the disease, and it is better that the constitution should not be drained even by it, until it is able to support it. Such are the general rules respecting anæmia, but a confirmed case should always be submitted to the medical man—causes may be aggravating, or effects such as consumption, springing from the disease, which he only can detect. Moreover, in extreme cases of this disease, sudden death has occurred.

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* AMMONIACUM PLASTER has been used as stimulant in housemaid's knee.—See Housemaid's Knee.

† ANÆMIA.—Unnatural protrusion of the eye-balls in connection with the anæmic state has of late years attracted much attention among medical men. The condition is one which requires the skilled treatment of the physician, although, of course, it is benefited by the improvement of the constitution generally.

Refer to—*Chalybeates—Iron, &c.*

ANÆSTHESIA.—Loss of sensation.*

ANALYSIS.—The art of separating and distinguishing the various constituents of a compound body, either as regards quality or quantity. In judicial inquiry, it is most important, and were its power and perfection more generally known, the dread of almost certain discovery, would tend to check the too common crime of poisoning. —It is possible for the chemist to make the 1000th of a grain of arsenic demonstrable.†

ANASARCA.—See Dropsy.

ANATOMY.—The science which treats of the structure of organized beings. It is divided under the heads of—General Anatomy, which regards the general features and relative position of the various portions of a body; and Structural Anatomy, which regards the intimate and microscopic structure of the various textures.

ANCHYLOSIS.—Stiffening of a joint may be complete or partial. In the former case, it is best let alone; in the latter, much may be done to restore, by friction with oleaginous substances—cod-liver-oil, &c.—by bathing the joint with warm sea-water and by daily constant gentle attempts at movement.

ANEURISM—See Artery.

ANGINA PECTORIS, or Spasm of the Heart, is one of the most formidable and painful of the affections which terminate human life; it occurs more generally after middle age, and is more frequent in men than women. The attack is characterised by the sudden onset of agonising pain, referred to the centre of the chest, or a little to the left side of it, passing through to the spine, up to the left shoulder, and down the arm of the same side even to the extremities of the fingers. Sometimes both arms are affected. Along with the pain, which is always said to be agony beyond description, there is a sensation as of instant impending death. The paroxysm ceases as suddenly as it comes on. Angina pectoris may be preceded by warning symptoms, palpitation, shortness of breathing, indigestion, or it may come on unheralded by any of these, generally during some slight exertion, as walking up hill, or during strong mental emotion, but not unfrequently in the night, after the first sleep. An attack of angina pectoris is an emergency affecting life, to which there are few equal; full, instant, stimulation is demanded, and the first agent of the kind at hand must be used, till other remedies and proper assistance can be procured. A glass of spirits and water as hot and strong as it can be swallowed, and with it, if procurable instantly, sixty drops of laudanum must at once be given. A strong mustard-poultice is at once to be applied to the front of the chest, and the same between the shoulders—hot applications to the feet. If the paroxysm be not subdued in a quarter of an hour, the stimulant is to be repeated with half the quantity of laudanum, and this again, after the same interval, if requisite. Spirits have been mentioned as being the most readily procurable, but when ether and sal volatile, either one or other, or both, are at hand, they are preferable, and must be given in just so much water as will permit of their being swallowed; a tea-spoonful of each with sixty drops of laudanum. A person who has once suffered an attack of angina should never be without these three requisites, laudanum, or better, Battley's sedative solution—ether—sal volatile. It is needless perhaps to say, that all these measures of an emergency in which not a moment is to be lost, are whilst waiting the arrival of the medical attendant, and that to him must be entrusted the direction of that regulated mode of life, which must ever be adopted after an attack of this disease. The treatment of the emergency it may be highly important for an unprofessional person to be acquainted with, that of the interval, which may extend to months or even years, with care, must be left in the hands of educated skill alone.[*]

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* Anæsthetics.—Agents which produce insensibility to pain. For recent information in the use of Anæsthetics see Appendix.

† Analysis.—To the "Analytical Sanitary Commission" of the "Lancet" we owe much useful information which has been taken advantage of in the present work, in the case of medicinal agents as well as in the case of articles of diet.

ANIMAL HEAT is the temperature which every animal body is enabled to sustain, independent of surrounding media. In healthy men, the average temperature of the body is 98° or 99°, in some diseases it rises considerably. Whether our animal temperature is sustained in part from other sources or not, it is generally, now considered, to be chiefly due to the continual union of the carbon and hydrogen derived from the food, and from the bodily tissues, with the oxygen conveyed to every portion of the living frame, from the lungs, by the blood. One great fulfilment therefore of the food we digest, is to keep us warm, by the continual combustion of elements going on within us, consequently, persons who can consume and digest large quantites of food, have much greater power of resisting cold than those who cannot, and chilliness is one very constant symptom of impaired digestion; the stomach is unable to keep the system supplied with fuel. The point is one of considerable importance in the selection of crews for arctic expeditions; and ought to have some influence with intending emigrants in their choice of a future home. An individual who suffers from habitual weakness of digestion, ought to choose a warm or genial climate in preference to a cold one. Fats and oils especially, which contain much carbon and hydrogen, afford great protection against severe cold; accordingly all northern people, like the Esquimaux, consume them in large quantity, and Europeans travelling in northern latitudes have always copied the natives in this respect. Alcoholic fluids, like fat and oil, contain much carbon and hydrogen, but their stimulant properties, and more evanescent influence, render them unfit for *ordinary* consumption to sustain animal heat, although on *extraordinary* occasions they are invaluable. When from illness or any other cause, sufficient food cannot be taken to keep up a due temperature, fuel is supplied at the expense of the bodily tissues, more especially of the fat—as the case is in hybernating animals—and if illness, such as fever continues, even the supply within the body threatens to fail, and the person is actually in danger of dying of cold. It then becomes imperative to get into the circulation as much "respiratory food," as much nourishment as possible, simply, as fuel. Much may be done by strong animal broths, but alcohol is the great resource, in whatever form is most advisable; it passes readily into and mingles with the blood, and affords an immediately available supply of carbon and hydrogen to keep the animal temperature going. The regular, steady supply of wine when required in fever, must be kept up, and this cannot be too strongly impressed upon the mind of the attendant. Half an hour's nap on the part of the nurse may lose a life.

But internal heat cannot do all in our cold clime, and with artificial modes of living, and it is of the utmost importance, especially in the young and delicate, to maintain the full temperature of the surface by proper clothing. The subject is one, respecting which much carelessness and ignorance prevails in all classes of society in this country, and children, half clothed for the sake of appearance, with bare chests and limbs, and exercise not sufficiently active to counteract the effects of the chill, are exposed to all the evils resulting from internal congestions of the blood repelled from the surface. Warm clothing is, in some respects a substitute for food, and either man or animal requires less nourishment when protected from cold. It is well known to agriculturists, that sheep or cattle will fatten more quickly under cover in winter, than if exposed to the weather. The reason is obvious, they are able to store up in their bodies, that which otherwise must have gone to keep them warm. When it is considered, that abstraction of animal heat, by cold and wet, is one of the most fertile sources of fatal disease, the importance of maintaining the full temperature of the body is manifest. It is well known that exercise is the best antagonist to cold, it is so, by quickening the respiration, and thus increasing the supply of oxygen taken in by the blood, which is also circulated more rapidly. In fact, to use the simile which compares the body to a stove, exercise gives a free draught for the process of combustion. Continued exposure to an extreme degree of cold, which carries off the animal heat more quickly than it can be generated, it is well known, gives rise to over-powering drowsiness, which, once yielded to, is death. It must be resisted, and when one of a party thus exposed is inclined to yield, the others must resort to every means calculated to rouse, even—as has been done,—by thrashing him along; the temper which is excited is a most excellent resistant of cold.[†]

Refer to—*Aeration*—*Blood*—*Lung*--*Circulation*—*Food.*

ANIMATION SUSPENDED[‡] is the term applied to that condition in which the life of the body is threatened, in consequence of respiration having been stopped or impeded, but in which there still exists a possibility of life being preserved. The chief causes of suspended animation, are drowning, hanging, immersion in choke damp or irrespirable gas, and intense cold. These may be referred to under their proper heads.

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[*] Angina Pectoris is said to be sometimes excited by excessive tobacco smoking.

[†] Animal Heat.—It should be remembered that if active exertion continue too long it will cease to promote warmth, in consequence of the available heat-producing agents being comparatively exhausted.

[‡] Animation Suspended.—See also article Suffocation.—See Appendix.—Drowning, additional article.

ANISE—aromatic and carminative, is used chiefly in the form of the distilled water to correct flatulence in children, but is not so generally liked by them as dill water, which is equally efficacious. The dose is a tea-spoonful. The essential oil of aniseed is used to flavour mixtures, and is given in doses of five or six drops, for an adult, upon lump sugar.

Refer to—*Carminative.*

ANKLE, is the joint connecting the foot with the leg—fig. A—it belongs to the class of hinge joints, and is formed by the extremities of the large and small bones of the leg—fig. A, 1 and 2—on the one side, and the smooth, "articulating" surface of a bone of the foot, named the "astragalus" on the other, the whole being kept in place by means of strong ligaments—4 and 5. The position of the ankle joint renders it peculiarly liable to injury—strain, dislocation, or fracture of the leg bones close to their extremities. Whenever the least suspicion exists that violence to the ankle has caused more than a sprain, no time should be lost in submitting it to the examination of the surgeon, such injuries are often extremely obscure, and there is much difficulty in making out their exact nature after swelling has come on. A simple sprain of the ankle, is to be treated in the mode directed to be followed in these injuries generally. In cases of dislocation, occurring at a *great distance* from medical aid, and when from the extreme distortion of the foot, the accident is distinctly apparent, some attempt ought to be made by those near to replace the parts; for this purpose, the sufferer being laid down, one individual should grasp the leg firmly just below the calf, whilst another, grasping the heel with his left hand, and the lower part of the instep with his right, endeavours, by extension in the first place, and slight turning of the foot towards its proper position, to reduce the dislocation.

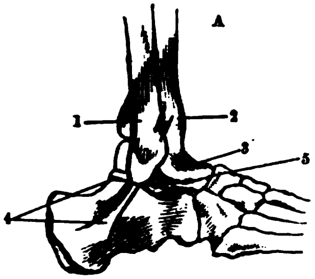


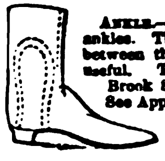
Fig. A.

The ankles in children are very apt to become gradually distorted from weakness generally, and of the ligaments in particular, and the deformity is often not discovered until it has considerably advanced, the bones become altered in shape, and even the spine affected, from the habitual malposition of the body. The best general remedies are, attention to the general health and strength of the child, as directed in the article "Children," the *prohibition of long standing*, and enforcement of regular but moderate exercise. The ankles ought to be bathed every morning with cold salt water, and well rubbed afterwards with a rough towel. Many contrivances, boots of various kinds, &c., are, and have been used in cases of weak ankles; unless, in extreme cases, they are better avoided, and the case left to the gradual strengthening measures above recommended. If artificial supports supply the place of the natural ones, the latter will not regain the proper tone and strength essential for permanent cure. One of the many forms of elastic sock or stocking, may, however, be worn with advantage. In addition to the above means, considerable mechanical power may be exerted by making the inner, or outer margin of the sole of the boot—for cloth boots should always be worn in such cases—thicker or thinner, according to the nature of the deformity; thus, if the ankle be inclined to project inwards, the sole should be raised on the inner side, and *vice versâ*. Regular perseverance in the above mode of treatment will, in most cases, effect a cure without the more complicated contrivances often used. Attention, too, ought always to be paid to the habits of standing practised by the child. Children are sometimes born with ankles distorted. See *Club feet.*

Refer to—*Dislocation—Joint—Sprain, &c.*

ANODYNES must be regarded as constituting one of the most benevolent provisions of the Creator for the relief of his creatures. The removal of pain by an anodyne, is like a breath of heaven. The more generally used anodynes are opium—belladonna—aconite—conium—hyoscyamus—lettuce—hop—camphor.

ANOREXIA.—Loss of appetite.



Ankle.—Various forms of boot have been contrived for the purpose of supporting weak ankles. The author has found the introduction of a light loop of steel (as shown in the figure), between the leathers, and made so as to miss the prominence of the ankle bone, extremely useful. There is also an excellently contrived and very light boot made by Mr Spratt, 2 Brook Street, Hanover Square. **Anodynes.**—Add chloroform, chloric ether, chlorodyne.—See Appendix.

ANTACID, in medical language, means whatever directly neutralizes acid secretions, more especially of the stomach and bowels. The principal antacids are potash, soda, ammonia, lime, chalk, and magnesia. The use of antacids can only be palliative, and their continued regular use is productive of serious mischief; they inevitably destroy the tone of the stomach, and aggravate permanently the evil they may temporarily relieve. Whenever antacids are frequently called for, it is a sign that there is other disorder, though perhaps less prominent, which must be looked for and corrected.

Refer to—*Dyspepsia—Digestion*.

ANTHELMINTICS are medicines which remove the different species of worms found in the alimentary canal.[*]

See *Worms*.

ANTIMONY is the metallic base of our antimonial preparations; of these, the most useful, are tartarized antimony or tartar emetic, antimonial wine, antimonial, or James's powder, and the compound, Plummer's pill. Of these, tartar emetic, the most powerful, is a remedy which stands without a rival as the controller of some forms of inflammation. A compound salt of antimony, potash, and tartaric acid, it is formed in crystals, but usually sold as a white powder. It is sufficiently soluble in water to be conveniently administered in that fluid, which should always be used soft or distilled: a simple solution of the medicine is preferable in most cases. In large doses, tartar emetic acts as a powerful irritant poison, causing intense nausea, vomiting, severe pain in the bowels, purging, bloody stools, and extreme general depression; and even in comparatively small doses, these effects are sometimes liable to be developed in degree, especially in children. Great caution, therefore, is required. In case of a poisonous, or overdose of tartar emetic having been swallowed, the best remedy is some astringent infusion, Peruvian bark, nut galls, or strong tea. There is considerable variation in the strength of the dose of tartar emetic, given by medical men; when, under necessity, it is dispensed by others, the sixth to the eighth of a grain only, should be given to an adult. A convenient form, is to dissolve two grains of the salt in half a pint of soft water slightly warmed, and of this, to give a table-spoonful every three or four hours, so as to keep up continued nausea. Vomiting may follow the first dose or two, but after that, in most cases, the stomach becomes tolerant of the remedy. By giving tartarized antimony dissolved in a moderately small quantity of water, its irritant effects are less liable to be exerted upon the bowels, and should they come on, a few drops of laudanum, if otherwise admissible, must be given in some demulcent, barley or rice-water, and the demulcent alone continued as common drink. To children, tartarized antimony must be administered with great caution, and is better avoided by the unprofessional, except in the extreme cases of croup, or severe inflammation of the lungs, plainly existing, and occurring at a distance from proper medical assistance. In the former alarming disease, tolerably full doses are required to make a quick impression upon the system, and to induce speedy vomiting. For a child of six or seven years, a single grain must be dissolved in an ounce of water, and a tea-spoonful of the solution, given either alone, or in a little water as drink, every quarter of an hour, till free vomiting is produced. In inflammation of the lungs, half the dose must be given; but this advice, let it be remembered, applies only to the severe diseases above mentioned, when occurring at a distance from medical aid. The practice of administering antimony to children, generally, is not well, unless under medical sanction, and in those of weak constitution may be productive of serious or fatal results.

For a simple emetic, antimony is seldom well adapted, and should not be used when others are obtainable.[†]

ANTIMONIAL WINE is a solution of tartar emetic in wine, two grains to the fluid ounce; in many cases, it is a convenient preparation, but of course liable to the same dangers as the watery solution; it is much—too much, used popularly, especially as an emetic. In inflammatory diseases, the amount of wine which must be given with each dose is objectionable. It is most useful as a simple diaphoretic, given at bedtime, in doses of from ten to thirty drops, and combined with half an ounce of spirit of mindererus.

James's powder, although a secret preparation, is comparatively so mild and certain in its operation as a diaphonetic, that it is very generally prescribed by medical men; dose, three to eight grains. The pharmaceutical imitation—antimonial powder—is not to be depended on.

Plummer's pill contains antimony in small proportion. See PLUMMER'S PILL.

ANTISEPTIC. — A substance which counteracts the tendency to fermentation, or putrefaction in organized bodies. Chlorine, mineral acids, salt, alcohol, volatile oils, cold, &c., all act as antiseptics.

Refer to—*Fermentation*.

ANTISPASMODIC.—That which allays

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[*] ANTHELMINTICS.—The principal Anthelmintics are Kousso—Oil of Male fern—Santonine—Turpentine—Scammony—Iron, and most of the vegetable bitters are also indirect worm remedies.

[†] ANTIMONY.—Tartarized Antimony is now the Tartarated Antimony of British Pharmacopœia—as a counter irritant it is used in the form of "Ointment of Tartarated Antimony." To make the ointment, rub thoroughly together quarter of an ounce of Tartarated Antimony with one ounce of simple ointment.

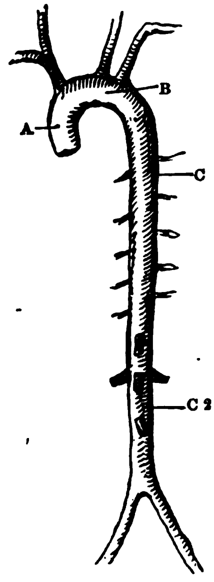
pain arising from muscular spasm, or indeed any severe pain unconnected with inflammation. Anodynes, therefore, are antispasmodics, but there are others of the class which are stimulants, and which do not appear to possess any anodyne effect. The principal stimulant antispasmodics, are ether—which may also be regarded as anodyne—ammonia, valerian, assafœtida, musk, and the various forms of spirit, brandy, &c. The anodyne antispasmodics, are quite the safest for unprofessional administration; they cannot do mischief, which the stimulants certainly will, in the event of inflammation being present. Heat is, however, one of the best, and certainly the safest antispasmodic for general use; in spasm of the stomach, in colic, in gravel, in gall-stone, indeed, in pain generally, the continued application of heat,—as high a temperature as can be well borne—acts certainly, safely, gratefully. The antispasmodics above enumerated, are more directly applicable to the treatment of painful spasm; those which are employed in the treatment of spasmodic diseases, such as St. Vitus'-dance, hooping-cough, &c., are many of them more properly tonic remedies; chloroform, as a general antispasmodic, is eminently serviceable.*

Refer to—*Anodynes—Spasm—Heat, &c.*

ANUS.—The fundament or terminating outlet of the alimentary canal. Itching in this situation is at times extremely troublesome, it will generally be allayed by slight relaxation of the bowels, effected by a few doses of sulphur and magnesia, half a drachm of each taken every night, and by the use of a lotion composed of two or three grains of acetate of lead in the ounce of water. Fissure of the anus is a most painful affection, which requires the care of the surgeon. Prolapsus of the bowel, piles, and fistula, all occur in this situation. The anus is kept closed by a sphincter muscle which surrounds it. When this muscle loses its power, as it does in some diseases, involuntary discharges occur.†

Refer to—*Fistula—Piles—Prolapsus.*

AORTA.—The main artery of the body, which arises directly from the heart, and from which all the secondary arteries have their origin except one, the pulmonary.—See fig. The aorta is divided into an ascending portion A, an arch B, and a descending portion C, the latter being subdivided into a thoracic portion C, and abdominal C 2. The origin of the aorta from the heart, is just opposite the junction of the fourth rib with the breast-bone. The passage from the heart into the aorta, is closed by three "semilunar" valves, which, when perfect, effectually prevent any regurgitation of blood.



Refer to—*Artery—Heart.*

APERIENT. — Whatever opens the bowels gently—a laxative, in contradistinction to purgatives, and cathartics, which act strongly. See *Laxative.*

APHONIA.—Loss of voice may be owing to inflammatory swelling, either acute or chronic, or to ulceration of the lining membrane of the larynx, to paralysis, or to hysterical affection. Coming on suddenly, accompanied with fever, pain in the larynx and upper part of the throat increased on swallowing, and difficulty of breathing, the above symptom must be regarded with some apprehension, as one of the concomitants of rapidly fatal disease, acute laryngitis. Loss of voice, however, frequently occurs, quite unconnected with the other symptoms mentioned, and is then not to be so seriously regarded. Many persons are liable to it after exposure to night or foggy air, or after much, or loud talking. Persons living in damp houses suffer from this form of aphonia, which is probably owing to the thickening or great susceptibility of the laryngeal membrane. When it continues, nothing affords greater relief than antimonial ointment, or croton oil, rubbed over the forepart of the neck so as to produce a free eruption. Blisters may be used, but are

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Anxiety is a medical term frequently used to express a feeling of sinking and distress at the pit of the stomach.

* Anti-Spasmodic—To the above enumerated must be added—Chloric Ether—Sumbul—Chlorodyne—See Appendix—See also Sulphuric Æther.

† Anus.—In irritation, the following is useful—Take of Oxide of Zinc, and solution of Acetate of Lead, of each one drachm—prepared Lard, one ounce—rub well together.

not so efficacious. A hot bran poultice to the throat at night, and a tea-spoonful of paregoric, taken along with twenty drops of ipecacuan wine, will often remove a threatened attack. In the more chronic form, twenty drops of tincture of squills may be substituted for the ipecacuan. A syrup made with infusion of horse-radish, is popularly, and sometimes beneficially employed. Persons who are liable to loss of voice, ought never to expose themselves to damp, cold, or night air, without protecting the mouth by means of a light shawl or respirator of some kind, and should keep the feet well protected, not so much on account of the symptom itself, though that is troublesome enough, but because of the indication it affords of general delicacy of the bronchial membrane. When along with loss of voice, there exists hoarse cough, pain, and expectoration of thick mucus, ulceration is to be suspected, and the case as soon as possible put under proper medical care. Aphonia from paralysis, or hysteria, must fall under the general treatment of these diseases.*

Refer to—*Larynx—Laryngitis—Expectorants—Respirator.*

APHTHA.—Thrush, is more especially a disease of early infancy, affecting the mouth and fauces, the lining membrane of which in this disease, appears as if sprinkled over with bits of milk curd. Recent researches have discovered, that upon these patches, a filiform description of minute fungus is developed, which probably finds a congenial habitat, in the disordered secretions which are the main feature of the disease; excess of acid, and irritation of the mucous lining of the bowels always existing. The disease is not generally serious, it is accompanied by slight fever and drowsiness, and passes off in eight or ten days; during the time, however, it interferes with the child taking the breast properly. Aphtha is very often the result of improper feeding, with bread and other things unfit for the infant stomach. The first thing to be done when an infant is affected with thrush, is to correct the acid state of the bowels by a few grains of calcined magnesia—in this case preferable to the fluid form—or if the bowels be relaxed, of chalk, following the antacid by a mild dose of castor-oil. This may be repeated every second day. The quality of the milk, and state of the nipple of the mother is to be examined, and the food, if any be given, regulated; milk and water, two parts of the former to one of the latter—in which a little isinglass should be dissolved if there is diarrhœa—is to be the sole addition to the mother's supply, all saccharine matters being avoided. If the state of the bowels be corrected, the thrush will generally get well, but it is expedient to assist the cure by the use of a solution of borax in water—one drachm to half a pint—used to wash the mouth. The common system of mixing borax with honey is not advisable, as the saccharine matter may favour the fungoid growth. When the case is mild, the aphthæ separate in seven or eight days, leaving a healing surface below, and the mouth soon gets well; that is, if it be not injudiciously scrubbed, "cleaned," daily by the nurse. In children of weak constitution, or who are exposed to unhealthy influences, thrush may assume a malignant character; the aphthous specks become black, and ulcerations form on their site, diarrhœa increases, and the belly becomes tender, the child is drowsy, or it may be convulsed. In such cases, the chlorate of potash, internally, and saturated solution of sulphate of copper applied to the sores, as recommended by Dr. West, are most useful, the strength being at the same time supported by a tea-spoonful of strong broth, in which isinglass has been dissolved, given frequently. When, however, the disease assumes this dangerous character, medical assistance must be procured at once. Children past infancy, and even adults are sometimes affected with aphtha. Regulation of the bowels by a mild aperient—castor-oil—chlorate of potash internally, and borax wash, are the best remedies. Bismuth is sometimes useful. The diet should be mild and unirritating, chiefly milk and farinaceous.†

APNŒA. — Imperceptible breathing, such as occurs in fainting, and in some nervous affections.

APPETITE.—The instinctive desire for food which is periodically, and in health, regularly experienced, is a real blessing given to us by God, and its temperate enjoyment is a sign of a sound mind in a sound body. The sensation of hunger doubtless originates in the system at large, and its removal by the presence of food upon the stomach, must be due to the sympathetic connections of that organ with the system. All that is required for the *immediate* appeasement of hunger, is the presence of a substance, it may be of very small nourishing power, in the stomach; the unctuous earth consumed by the American Indians, and the berg meal of Norway act in this way. Taste has nothing to do in satisfying the appetite. Mr. Beaumont, who experimented in the famous case of St. Martin, found that appetite was quite as well appeased by food passed into the stomach by the external opening, as if it had been swallowed.

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* APHONIA.—In hysterical Aphonia, the inhalation of a small portion of Sulphuric Ether is said to have proved useful.—Loss of voice from relaxed throat is often quickly cured by the use of Nitrate of Silver, or Lunar Caustic dissolved in Nitric Æther (See Appendix) or by a gargle composed of one drachm of Tincture of Perchloride of Iron in half a pint of water, to be used three or four times daily—See Sore Throat.

† APHTHA—The Author would direct additional attention to the use of Chlorate of Potash in Aphtha—See Potash Chlorate.

A regular appetite is generally a symptom of a healthy state of system; as soon as disorder occurs, the appetite flags, nature herself stops the supplies, which, instead of nourishing the body, would only increase the embarrassment of the functions; but this is not understood, and the sick are too often tempted and pressed by anxious attendants, to take nourishment, to their own hurt and discomfort. Even then, nature asserts her right, and the stomach rejects what it did not desire. The longings of appetite sometimes appear to be almost instinctive, especially in illness, particularly where there has been much or obstinate vomiting. The patient will express a strong desire for some article of food or drink which our preconceived ideas or theories would certainly forbid, but which being permitted, seems at once to agree. When the various morbid deviations from natural appetite are considered, such latitude requires of course great caution; but the fact should not be lost sight of:—a variable appetite, at one time deficient, at another morbidly active, is scarcely consistent with health. In children, it is often indicative of worms. Depraved appetite consists in the longing for, or devouring substances not intended for food, such as chalk, slate pencils, cinders, earth, &c.: the symptom is not unfrequently a concomitant of the chlorotic diseases of young females. The "dirt-eating" of tropical climates is another form of depraved appetite.

APOPLEXY—is an affection of the brain, during the continuance of which, sense and voluntary motion are wholly or partially extinguished; the patient lies unconscious, as if in deep sleep, and cannot be roused by any ordinary means. More generally the face is flushed, and the vessels of the head and temples appear over filled; there is snoring, or stertor, as it is called; the upper lip margin, partially or entirely, is blown forward at each expiration, and the skin is covered with profuse perspiration; if the eyes are examined, they appear bloodshot and glassy-looking. In some cases, while the symptoms of insensibility, perspiration, &c., are present, the face is pale, and the appearance is one of general depression; the weak pulse contrasting with its full hard condition in the former case. If a person be found in a state of apoplexy, as he can give no account of himself, it is important for others to ascertain whether there is any assignable cause for the circumstance. The head should be examined for signs of violence; the breath for the odour of alcoholic drink; any circumstances likely to give occasion to poisoning searched out; but whatever the condition, no time should be lost in procuring medical advice; in the meanwhile, much is to be done by well-directed attentions. Few attacks of apoplexy come on without previous warning; the patient, if of full habit, has suffered from headache or giddiness, especially on stooping, or has slept much and heavily; the mental faculties have been sluggish, the memory affected, or vision impaired; there may have been numbness or pricking in a limb, or in a finger only; to others, the face and eyes have looked full and red;—if of spare habit, there may also have been headache, giddiness, impaired vision, and confusion; but there has been, also, marked debility of the mental powers, memory affected, the power of following a consecutive train of thought impaired, articulation indistinct, while with these the face has been pale, the pulse weak, the whole manner inanimate, rather than oppressed. Individuals of sanguine temperament, with short necks and large heads, particularly if they live well, are the subjects of the first set of symptoms; those of spare habit, and weak, leuco-phlegmatic constitution, of the second. When in an individual, at any time of life, but more especially after the age of fifty, such symptoms shew themselves, they should not be neglected for a day. It is evident, however, that depending on two very opposite conditions of body, the treatment for each must be very different. The extent and graduation of this treatment ought to be entrusted to the medical attendant; in the mean time, if interval must elapse before that can be done, the man of full habit should at once reduce his diet, cut off entirely, or nearly so, his stimulants and spices, and animal food, eschew supper, take exercise *moderately*, and rise early. He should purge the bowels freely by a couple of calomel and colocynth pills, taken nightly for a few times, and by salines, such as Seidlitz powders or Epsom salts, a couple of tea-spoonfuls of the latter in half-pint of water, every morning. Mental excitement is to be avoided, the head kept well raised in bed, anything, either handkerchief or shirt, round the neck, worn perfectly easy. The man of spare habit must follow a more negative plan. Rest and quiet of body and mind are for him essential; anything likely to tax the nervous power, particularly of a sexual character, must be avoided; over fatigue is dangerous; while the bowels are kept regular, they must not be purged; the diet easy of digestion, ought to be nourishing; and stimulants, if habitually taken, must not—unless found directly to cause uneasiness in the head—

be discontinued, without medical sanction; spices, however, should be avoided. The temperature of the skin generally, and of the extremities, should be sufficiently preserved. When an individual is seized with symptoms denoting apoplexy, it being ascertained that they neither proceed from violence to the head, from intoxication, nor narcotic poison.—*See Head—Intoxication—Poison*—during the longer or shorter interval which may elapse before the medical man can arrive, much is to be done. The patient should be laid on the back, the head and shoulders well raised, the neck bared, and a free current of air permitted to the head. If there is much redness and congestion of the face and head, with full hard pulse, in a person of full habit, if, as may happen, medical aid is far distant in point of time, and if there is any one present competent to bleed from the arm, it may be done to the extent of from sixteen to twenty-four ounces; it may not do good, but in such a case it can scarcely do harm. If leeches are to be had in the case now supposed, from one to two dozen of them may be applied over the head, temples, and behind the ears, either as an adjunct to, or substitute for bleeding from the arm. The amount of blood taken in this way, *must* be left a little to the discretion of an intelligent lay adviser. In addition, free purging should be resorted to. As the power of swallowing is lost or impaired, medical men usually effect this by means of a drop of croton oil placed on the tongue, and repeated if requisite; but in the circumstances now supposed, this can scarcely be obtainable, and instead of it, a clyster containing salt or soap-water, Epsom salts, turpentine, castor-oil, or whatever purgative is most readily available, must be given; the warmth of the feet must be preserved, but not excited, by hot water, mustard, &c. All attempts at giving nourishment must be suspended for many hours. In the event of the attack presenting the opposite symptoms, those of depression, all attempts at depletion are to be avoided, indeed, it may be requisite in an extreme case, to get a few spoonfuls of wine swallowed; purging must be let alone, but the extremities should be kept well warmed, and mustard poultices may be freely applied to the legs, thighs, or between the shoulders; liquid nourishment, such as meat broth, must be got down in teaspoonfuls at a time. To the medical attendant must be left all beside. An attack of apoplexy may either disappear or be removed, and leave the patient apparently in perfect health, or it may leave him paralyzed in body, and weakened in mind, the man but not the same man,—changed; strength has been exchanged for weakness in every way, for weakness which increases as time goes on, loss of memory, irritability, childish desires, and childish weeping, till in all probability one or more attacks of the disease close the scene. Lastly, apoplexy may pass on to deeper and deeper insensibility, no sign of consciousness is ever given, the breathing becomes more laboured, the natural offices are performed involuntarily, the sweat becomes the cold one of death, which takes place with or without convulsions.

Apoplexy may come on suddenly; the person is struck as if by a blow, but this form is less to be dreaded than that which creeps on more insidiously. An individual becomes giddy and faint for a few minutes, perhaps vomits, but seems to recover; shortly after, however, he becomes dull, the eyes heavy, and insensibility gradually comes over him. The first form is most probably owing to sudden congestion in the head, or to rapid effusion of blood; the latter to slower effusion; in this case, the first shock is felt at the instant the vessel gives way, but it requires the further gradual effusion to complete the attack. An individual who has once suffered an attack of apoplexy, and recovered, cannot too carefully avoid every possible exciting cause. A momentary imprudence, the stooping to tie a shoe, looking at objects much above the level of sight, &c., a warm bath, may be sufficient to induce serious symptoms. Especially must the bowels be kept so easy that straining at stool is never required. The system of diet and regimen should be strictly laid down by the medical attendant, and as strictly adhered to by the patient; the mind carefully kept from excitement. In no disease, with exception, perhaps, of that of the heart, does the man who possesses habitual self-control, in body and mind, possess more advantage, than in apoplectic tendency, over the slave of passion or of temper.*

Refer to—*Paralysis.*

AQUA-FORTIS.—NITRIC ACID.—Refer to—*Nitric Acid.*

AQUA-REGIA.—NITRO-MURIATIC ACID.—Refer to—*Nitro-Muriatic Acid.*

AREOLA.—A term applied medically to the inflamed circle which surrounds a vesicular or pustular elevation, such as that of the vaccine vesicle. Also applied to the coloured circle surrounding the female nipple. Generally, not invariably, previous to pregnancy, this areola is light in colour, but in the majority of cases, soon after conception, it begins to darken, and in some individuals, especially in those of dark complexion, it becomes of a deep brown. The change of colour in the areola, is, therefore, classed amid the more certain signs of pregnancy, but as it has been known to exist in the virgin, and is not universally developed in the pregnant female, it can never alone be taken as a decisive proof, but only as a corroborative, along with other symptoms.

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* APOPLEXY—Refer to Gout.

Refer to—*Pregnancy*.

ARM-PIT.—See Axilla.

ARNICA MONTANA.—Leopard's-bane, is a plant bearing a composite flower, found in mountainous regions. It is scarcely if ever prescribed internally in this country; as an external application, however, it is much and beneficially used in the treatment of wounds and contusions. From one to two drachms of the tincture in half-a-pint of water forms a convenient lotion. The homœopathic practitioners claim arnica as one of their own remedies, and their chemists ask for their tincture an extravagantly high price. The drug itself has long been used externally, on the Continent, and the tincture may be procured equally good, and much cheaper, at many respectable chemists. Like every thing else, there is much spurious tincture sold. When the pure tincture is dropped into water, it gives it a milky or opalescent appearance.

AROMATICS.—Stimulants derived from the vegetable kingdom, possessing a more or less powerful and generally agreeable odour, a warm and agreeable taste. They are for the most part products of warm climates and appear specially adapted to the relaxed constitutions of the natives. A free use of aromatics is said to counteract the effects of malaria in tropical countries. Some stimulant is certainly requisite in those climates, and the native productions bestowed by Providence, are evidently much better adapted to fulfil the indication than alcoholic excitants. Mace, cloves, cinnamon, are all aromatics. Angelica is one of the few aromatics of temperate climates, and perhaps the best.[*]

ARROW-ROOT—now so well known, is procured of the best quality from the West Indies, especially from Bermuda, whence it is imported in soldered tin cases. It is now also imported from East India, and an inferior kind is brought from Tahiti. Arrow-root is subject to much mixture and adulteration, but generally—as with potato-starch, &c., of a harmless character as regards the consumer. The "Lancet" periodical, has recently, by means of its "Sanitary Commission," thoroughly investigated the subject of these adulterations. The best arrow-root ought to be pure white, slightly glistening in the mass, and the powder of which it is composed, collected together in small crumbs or lumps, which break down with a slight crackling sensation beneath the finger. Arrow-root is pure starch, and forms a peculiarly stiff jelly. As an article of sick cookery it is invaluable, where mild support is required without stimulation, and in convalescence. and chronic disease. There are few stomachs with which it disagrees, and infants both like and do well with it. At the same time, it is proper to caution against the too common error of trusting too much to the nutritive powers of arrow-root alone, especially for children. It may give support indirectly, that is to say, by supplying material for respiration and animal heat, it may save the tissues of the body, or it may even go to build up some of these tissues, but alone it can never make bone or muscle, for the simple reason that it does not contain the elements necessary for these constituents of the frame. A child fed exclusively on arrow-root, water, and sugar, and such has been the case, must become unhealthy, and, without fail, ricketty. The case is abundantly altered, when, with arrow-root, milk is combined. In this fluid exists whatever is requisite for the animal frame, nitrogen for its muscle, phosphorus for its nerve, earthy salts for its bone. The combination of arrow-root with milk is one of the best which can be given to a child, or to an adult in the early stages of convalescence from illness.

[†]ARSENIC is a metal; the substance which usually goes under the name, and which is also called white arsenic, is an oxide of the metal; it is a too well-known poison, and is perhaps more universally used than any other, for destroying life. Its tastelessness, cheapness. and the culpable facility with which it has hitherto been obtainable have combined to make it familiar. Much controversy has at times taken place respecting the effect of arsenic upon the palate; it is certain, the taste is very faint, but extreme irritation of the portions of the lining mucous membrane of the mouth and other parts, quickly follows its contact. The length of time after arsenic has been swallowed, that symptoms take to shew themselves, varies much, depending in all probability upon the state of the stomach as to emptiness, or the reverse. Sometimes they appear in a few minutes, at other times not for hours. Poisoning by arsenic is distinguished by faintness, nausea, intense burning pain at the pit of the stomach, and vomiting of its ordinary contents, followed by that of a turbid brown fluid, and mucus, often streaked with blood; intense burning heat in the throat, and thirst; purging ensues, cold sweats, convulsions, death. The eyes may become inflamed. but this is more general when the case is

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[*] Aroma.—The pleasant odoriferous principle of either animal or vegetable substances.

[†] Arsenic.—The danger arising from paper hangings coloured with arsenical green is now sufficiently well-known. It is the flock papers which are most likely to be injurious, and of course the more confined the room the more likely the chance of mischief. People generally are now so well aware of the deleterious effects of articles of dress coloured with arsenical green, that danger from such a cause must be wilfully incurred.

prolonged, as it may be, in consequence of the small dose, or from other circumstances; in this case an eruption on the skin is not unfrequent. The symptoms of course vary, particularly that of pain, which occasionally has been almost entirely absent. It must, too, be remembered, that the symptoms of British cholera and those of arsenical poison, very closely resemble one another. When poisoning by arsenic is suspected, of course the first measure is to procure efficient medical aid. In the meantime, it is requisite to get as much of the poison as possible evacuated from the stomach; it is seldom necessary to produce vomiting, that most generally comes on soon; but if it has not done so, five-and-twenty grains of white vitriol—sulphate of zinc—if procurable, should be given at once, in a little water; if this is not done, a table-spoonful of mustard in water, or tickling the throat with a feather, should be resorted to; milk, which by its coagulation may envelope the poison, or thick mucilaginous drinks olive oil, alone or mixed with lime water, may, any or all, be given, and with them, magnesia. The great object must be, to clear the stomach of the poison as thoroughly and speedily as possible, for unlike many other poisons, there is no chemical antidote to arsenic which can be relied on. A preparation of iron has been vaunted, but it is of doubtful efficacy; if either this, or the stomach pump is used, it will be in medical hands. In following the directions already given, the friends or neighbours of the poisoned person will be doing good service. Should the patient survive, and pass on to the second stage of arsenical poisoning, inflammation of the stomach, nervous symptoms, &c., will perhaps end life, or recovery may follow, but these changes must necessarily be attended to under medical guidance. White arsenic is not the only preparation of the metal by which poisoning occurs; the colouring substances known by the name of King's yellow, and Scheele's green, are both compounds of arsenic, and being frequently, and culpably, used in confectionary, have proved fatal. Similar symptoms occur, and similar treatment is to be followed as after poisoning by white arsenic. Whether in poisoning by arsenic, or by any other agent, the vomited matters should always be carefully preserved in a vessel by themselves, for medical inspection; and if there is any suspicion of foul play, some responsible person should place them under lock and key. Did those who perpetrate the crime of poisoning by arsenic, know beforehand, with what certainty the chemist can separate, for exhibition in a court of justice, the instrument of their wickedness, perhaps from the body of the victim, years after it had been buried; selfish fear, if no other consideration, might stop the deed.

An Act to Regulate the Sale of Arsenic,
14° *Victoria, Cap.* xii.

Whereas the unrestricted sale of Arsenic facilitates the commission of crime: Be it enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons, in this present Parliament assembled, and by the authority of the same as follows:

I. Every person who shall sell any Arsenic shall forthwith and before the delivery of such Arsenic to the Purchaser, enter or cause to be entered in a fair and regular manner, in a Book or Books to be kept by such person for that purpose, in the form set forth in the Schedule to this Act, or to the like effect, a statement of such sale, with the quantity of Arsenic so sold, and the purpose for which such Arsenic is required or stated to be required, and the day of the month and year of the Sale, and the name, place of abode, and condition or occupation of the Purchaser, into all which circumstances the person selling such Arsenic is hereby required and authorised to inquire of the Purchaser before the delivery to such Purchaser of the Arsenic sold, and such entries shall in every case be signed by the person making the same, and shall also be signed by the Purchaser, unless such Purchaser profess to be unable to write [in which case the person making the entries hereby required shall add to the particulars to be entered in relation to such sale, the words "cannot write"]. And when a Witness is hereby required to the Sale, shall also be signed by such Witness, together with his place of abode.

II. No person shall sell Arsenic to any person who is unknown to the person selling such Arsenic, unless the Sale be made in the presence of a person who is known to the person selling the Arsenic, and to whom the Purchaser is known, and who signs his name, together with his place of abode, to such entries before the delivery of the Arsenic to the Purchaser, and no person shall sell Arsenic to any person other than a person of full age.

III. No person shall sell any Arsenic unless the same be before the Sale thereof mixed with Soot or Indigo, in the proportion of one ounce of Soot or half-an ounce of Indigo at the least to one pound of Arsenic, and so in proportion for any greater or less quantity: provided always that where such Arsenic is stated by the Purchaser to be required not for the use of Agriculture, but for some other purpose for which such admixture would, according to the representation of the Purchaser, render it unfit, such Arsenic may be sold without admixture in a quantity of not less than ten pounds at any one time.

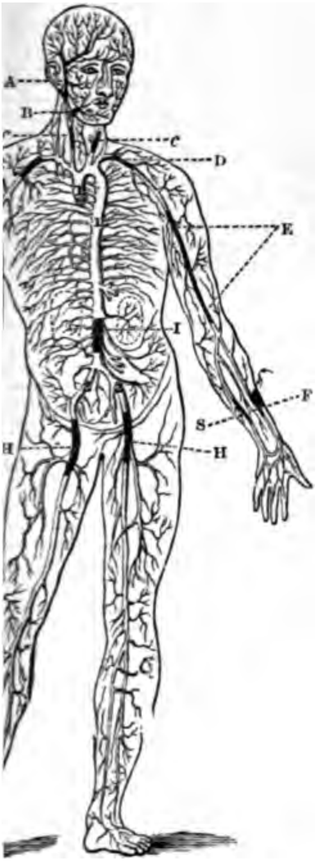
IV. If any person shall sell any Arsenic, save as authorized by this Act, or on any sale of Arsenic shall deliver the same without having made and signed the entries hereby required on such sale, or without having obtained such signature or signatures to such entries as required by this Act, or if any person purchasing any Arsenic shall give false information to the person selling the same in relation to the particulars which such last-mentioned person is hereby authorized to inquire into of such Purchaser, or if any person shall sign his name as aforesaid as a Witness to a sale of Arsenic to a person unknown to the person so signing as Witness, every person so offending shall for every such offence, upon a summary conviction for the same before Two Justices of the Peace in *England* or *Ireland*, or before two Justices of the Peace or the Sheriff of *Scotland*, be liable to a penalty not exceeding Twenty Pounds.

V. Provided that this Act shall not extend to the Sale of Arsenic when the same forms part of the in-

f any Medicine required to be made up nded according to the prescription of a lified Medical Practitioner, or a member ical Profession, or to the sale of Arsenic le to Retail Dealers upon orders in writing nary course of wholesale dealing.

he construction of this Act, the word ll include Arsenious Acid and the Arsenic Acid and the Arseniates, and all other oisonous preparations of Arsenic.

RY.—An artery is a vessel which y conveys blood away from the blood, with one exception—in the y, or artery of the lungs,—being l, "arterial," and flowing in waves ions, corresponding with the beats art. When red florid blood flows, ted from a wound in jets, an artery ly wounded, and the case is most serious. Blood from a vein is dark and black-looking, and flows in a continuous stream.



From the Aorta—see fig. i.—the main artery of the body, directly connected with the heart, various secondary vessels are given off, to supply the head and upper extremities, and the viscera of the chest and abdomen. Low down in the latter cavity, the aorta itself divides or bifurcates into the two large vessels which supply the lower limbs—fig. ii., 2.—From the secondary arteries other branches are given off, until, at last, by division and subdivision, the vessels become "capillary," hair-like in their minuteness, forming an intricate net-work, in which the arteries end and the veins begin. Arteries consist of three separate coats, an outer or protective, an inner or lining, and a middle, partly elastic and partly muscular. It is the thickness and firmness of this middle coat which chiefly distinguishes the artery from the vein.

As a general rule, the main arterial trunks run upon the anterior and inner surfaces of the body; some knowledge of their positions, and especially of those points in their course at which they can be most easily felt and compressed, may at times be useful to all. It is no uncommon thing for medical men to be called to accidents in which immense and injurious loss of blood has taken place from a wounded artery, which might have been saved to the sufferer by any one possessed of sufficient knowledge and presence of mind to put his thumb on the main trunk of the vessel. In the annexed figure, the portions of the main arteries most easily found and compressed are marked black, and any one, unless very corpulent, may verify the positions by examination of his own person. Wherever the finger is placed upon an artery, pulsation is felt.

In wounds of arteries of the head, such as upon the temples, there is the advantage of the bone, against which it is possible directly to compress the bleeding point, and when this can be done, it is the best method, otherwise, pressure may be exerted according to the position of the wound, at A in front of the ear; or just behind the ear; or at B, where the pulsation of an arterial branch may be found, as it winds over the edge of the lower jaw.

In wounds of the large carotid arteries of the neck, pressure is, unfortunately, of little avail; there is no point to press against, it is impossible to compress the artery without at the same time compressing the large vein, and from the size of the vessel and its proximity to the heart, the current of blood has much power. The vessels may be felt beating on each side of the windpipe.

In wounds of the large arteries about the shoulder or arm-pit, pressure must be made with the thumb, or handle of a moderate-sized key, wrapped in a few folds of handkerchief, upon the large vessel, at the point D, just behind the middle of the collar-bone, and where it passes over the first rib. In the event of a wounded artery lower down in the arm, the compression may be exerted over any portion of the course—E—just inside the large muscle. At the bend of the arm, the artery divides into two main branches, one of which—F—the pulse artery, runs towards the thumb; the other, S. towards the little finger, in which courses both may be felt; from the free intercommunication of the arteries of the hand, pressure is more certain to arrest hemorrhage if exerted upon the single trunk of the arm, E. In case of arterial bleeding from wounds of the lower extremity, it is most certainly and easily arrested by pressure on the large artery of the thigh, at the point H, in or just below the groin. In all these cases, pressure may be exerted by means of the thumb, or by some convenient body, such as the key above-named. To compress arteries in the limbs surgeons use the tourniquet, specially adapted for the purpose; but as a temporary succedaneum, a handkerchief will answer well, tolerably firmly tied round the member, between the body and the wound; if any one has knowledge enough to place a pad—a rolled-up stocking will do—over the course of the main vessel, so much the better.

ARTERIAL HEMORRHAGE may also be arrested by compression directly upon the bleeding point, and this should be tried until the surgeon's arrival, but it must be in positions, such as the hand, foot, &c., where pads can be firmly bound over the wound. These pads must be graduated, that is, a small firm one is to be placed directly over the bleeding vessel, over the first pad a larger, and one still larger over that, and the whole to be firmly bound with a bandage or ribbon—or *strip* of cloth of some kind; at the same time, the site of the wound is to be raised above the level of the body. *Above all things, loose wrapping up is to be avoided*, the wound had better be exposed to the air than enveloped in a hot poultice of clotted blood, which only causes it to bleed the more. Two cases which recently occurred in the writer's practice will illustrate the above directions:—1. A girl when cutting some bacon off the flitch, slipped the knife and plunged it into her hand, dividing one of the arteries; it bled fast, and when she was seen by the author some time after, a large quantity of blood had been lost; compresses and a bandage being at once applied, not another drop of blood was lost, the wound was undisturbed for a good many days, and quickly healed. 2. A man when sheep shearing, had the shears driven into his hand by a plunge of the animal, and the artery which runs between the thumb and fore-finger severed; he had to come three miles to the author's house, and must have lost above a quart of blood. In this case the vessel was tied, but in either of the cases, if, instead of the wound being loosely covered, and the hand kept down, some one had been sufficiently informed to tie a firm pad over the wound, until proper assistance was obtained, it could not fail to have saved either of these individuals a considerable amount of blood—and to a poor man, blood is money, he must pay the butcher some hard days work, to make up a pound of the vital fluid. Various styptics to arrest bleeding are recommended, such as alum, matico, fungus, &c., but in arterial hemorrhage, pressure is more to be trusted to. Surgeons arrest hemorrhage from a cut artery by tying the ends with a ligature of silk or firm twine. This might be done in emigrant life *under necessity*. The bleeding point being distinctly seen, is by one person to be pulled forward, either by a pair of forceps, or by a hook-tenaculum—see *Instruments*—made for the purpose, sufficiently far to allow of another individual tying it securely. The sailor's reef knot is the proper one for the purpose. The end of the vessel next the heart is to be tied, but should the lower end bleed, as it may do, especially in a few hours after the accident, it must be tied also. The ends of the ligature must not be cut off, and the wound covered with a cloth dipped in simple water, till the surgeon's assistance—as it must be—has been procured. After arterial hemorrhage, a person should always be watched, with light, during the night, and a handkerchief which could be tightened at any moment, kept closely round the limb. The application of water, unless it be ice-cold or nearly so, to a bleeding artery, is better avoided, free exposure to the air is preferable. In severe hemorrhage or flooding after delivery, compression of the aorta—fig. i.—may be of much avail in preventing further loss of blood until the arrival of the medical man. The hand of an attendant must be firmly pressed into the centre of the abdomen, until the pulsation of the aorta is felt, and felt to be acting against the compression, and not beyond it. The pressure must not be relaxed for an instant.*

ARTERIES are liable to the disease of aneurism, in which one or more of the coats become distended at some particular point, into a sac or pouch filled with blood. The progress of the disease is for this sac to grow larger, whilst its coverings become thinner and thinner, until at last they give way, and the individual dies from loss of blood. In many cases, surgical interference can save life by arresting the disease, and the sooner this is done the better. Aneurism may be suspected, when a tumour is felt, which distinctly pulsates, conveys to the finger a thrilling sensation, and becomes smaller and less tense when the current of blood through the artery leading to it is interrupted. In such a case the surgeon should at once be consulted. It is not, however, every tumour which pulsates that is aneurism, for proximity to a large artery may give the appearance of its doing so.

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* Arterial Hemorrhage—See Astringents.

ARTICHOKES—whether the vegetable properly so called, or the root, Jerusalem artichoke—are not adapted for persons of weak digestion, for those liable to flatulence, or for the aged. On some persons the artichoke proper acts as an aperient.

ARTICULATION.—See Joint.

ARTISAN.—The diseases to which workmen are liable in consequence of the nature of, or materials employed in, their respective businesses, always a subject of great interest, is too extensive to admit of being otherwise than very briefly entered into in the present work. Legislation and invention have of late years done much to screen the various classes of artisans from many sources of injury to health to which they were formerly exposed, much more remains to be done, and would perhaps be done more quickly, were it not for the apathy, and sometimes even contradiction, of those who were chiefly to be benefited. It is useless to supply miners with Davy lamps, and fork grinders with magnetic respirators, when the means of safety are so constantly and carelessly neglected. One immense source of evil—now happily ameliorated—has been exertion too prolonged, especially in the young; nutriment which should have gone to build up the growing frame, is consumed in mere physical exertion, the powers of the brain are used up in the same, and if not deformity of body, at least great weakness, and with it mental inaptitude, are the consequences. Many of those who are liable to disease in consequence of the materials they work in, owe much to their own want of cleanliness; this is the case with regard to the metals, especially lead, and a striking improvement has taken place in the health of workmen who have been compelled to observe certain rules of cleanliness, such as washing the hands before their meals. Workers in quicksilver are liable, in addition to affections of the teeth and gums, to a species of shaking palsy, or tremor of the limbs. Modellers in coloured wax, makers of wax-flowers, &c., are in danger of suffering injury from absorption through the skin of the hand, of the poisonous colouring ingredients, and should be extremely careful. Workers in lead, such as plumbers, type-founders, or painters who use it in the form of white or carbonate of lead, are apt to suffer from paralysis, more particularly of the muscles of the forearm; their more usual disease, however, is the "painter's colic," or dry belly-ache—see *Colic.* Copper-smiths, smelters, lucifer-match makers, all have their peculiar affections, that of the latter being a disease of the jaw-bone. Those who are employed in filing or dry grinding substances which give off a hard dust, are peculiarly liable to chest diseases, from the mechanical irritation caused by the particles continually inhaled. So much is this the case in some trades—such as the Sheffield fork-grinders—that most, if not all, their members die before reaching the age of forty. Millers and those employed among fine dust of a softer quality are not so likely to become consumptive as the former class, but have more tendency to asthma; they also suffer from the consequences of the cutaneous pores and functions being clogged and hindered by the dust. Grocers and bakers who are in the habit of handling flour, sugar, &c., suffer frequently from a disagreeable skin disease affecting the fingers, well known by the name of "grocer's itch." Housemaids who kneel at work have their peculiar swelling, which forms, and sometimes suppurates, over the knee-cap: this may be prevented by kneeling on a soft substance. Thatchers who press their knees against the steps of the ladder are exposed to the same thing. Clergymen, actors, and public speakers have their peculiar throat affection; in short, there is scarcely a trade or profession which does not expose its follower to some peculiar ailment, but there is scarcely one of these ailments which may not be prevented or much ameliorated by proper care—by cleanliness more especially, but also by attention to the various other prophylactic means which are now so generally known and provided.

Refer to — *Colic* — *Consumption* — *Lead* — *Skin, &c.*

ASCARIDES.—See Worms.

ASCITES.—See Dropsy.

ASPARAGUS, when young, well boiled, and not overloaded with melted butter, is wholesome and digestible; it gives a peculiar

Asarabacca.—See Baldness.

odour to the urine. Its peculiar vegetable principle, asparagin, contains nitrogen.

ASPHYXIA.—Suspension of sensible vital phenomena in consequence of the blood not having undergone the proper change by respiration. In this condition the brain, the lungs, the organs of the body generally, all suffer from the circulation of blood not duly arterialized, the heart is less and less excited, until, at last, it ceases to act, and death ensues, unless the cause of the asphyxiated condition, such as hanging, &c., be quickly removed, and suitable measures adopted for removing the suspended animation. See *Animation suspended.*

ASS'S MILK, according to Dr. Paris, "bears a stronger resemblance to human-milk than any other;" it contains much sugar and curd. It is a most excellent dietetic article, and restorative in all cases of debility. Drank too freely it acts upon the bowels.

ASSAFŒTIDA.—A gum resin and powerful antispasmodic, is useful in hysterical cases, and in flatulent distension of the bowels; in the latter case, especially, given as a clyster: it is the most efficacious agent we possess. Two tea-spoonfuls of the tincture of assafœtida may be added to a simple gruel clyster, or to one of the purgative clysters, if requisite. When assafœtida is given by the mouth, it is best in the form of pill. The compound galbanum pill of which it forms an ingredient may be given in three-grain doses three times a day. Where aperient action is required, especially in deficient menstruation, the Edinburgh aloes and assafœtida pill is a most excellent combination, and may be given, three grains, twice or three times a-day. The—to most people—disgusting smell of assafœtida, is a great obstacle to its employment, and yet in some countries it is used as a condiment as we use onion.

Refer to—*Clyster.*

ASSIMILATION, the first process of nutrition in animals, by which the nutrient portion of the food is rendered fit for absorption by the veins and lacteal vessels, which convey it into the general current of the circulation.

Refer to—*Digestion.*

ASTHMA—is an affection of the chest, characterized by distressing inability of the person suffering from it to inspire sufficient air to fill the lungs. The term, although applied by medical men to a defined disease, is used popularly to denote any difficulty of breathing, from whatever cause occurring, whether from disease of the heart, or any of the varied affections of the lungs. Asthma, although a nervous or spasmodic affection, is very frequently connected with actual changes in the lungs themselves. Asthmatic fits, or paroxysms, come on at irregular intervals; for several days or rather nights, successively, the patient is attacked, and a considerable time may then elapse before he again suffers; not that a regular asthmatic is in the interval entirely free from uneasiness, for there is generally some slight oppression of the breathing, liable to be aggravated by slight causes: changes in the weather, peculiarity of situation, errors in diet, anxiety, fatigue, mental excitement, may any of them induce a paroxysm of asthma in the predisposed. The attack itself is premised by feelings of indigestion and flatulence, frontal headache, chilliness, languor, and drowsiness; after having experienced these sensations during the day, the asthmatic individual is probably awakened from his first sleep by a distressing sensation of constriction of the chest, he is forced to sit up in bed, labouring for breath, or it may be to seek an open window; the distressed state of the breathing, if not relieved by remedies, continues for some hours, and at last gradually subsides; the characteristic wheezing becomes less, the cough, almost impossible before, is now brought out, and sleep, never more welcome, comes on. The latter stage of the paroxysm of asthma is generally accompanied with expectoration of mucus, sometimes it is not, and upon this a distinction into dry and humid asthma is founded. Confirmed asthmatics have a distressed cast of countenance, and acquire a peculiar rounding or elevation of the shoulders, perfectly characteristic. Asthma may occur at any period of life, but is more general about the middle; and men are more commonly the subjects of it than women. The disease in itself, though most distressing, is not dangerous, further than as it tends to lay the foundation of other affections of the lungs or of the heart.

No one can witness a paroxysm of asthma without distressing anxiety to relieve the suffering individual, and not without alarm, if it is the first time of seeing the attack. The patient seems as if he must die for want of air in the lungs, but death rarely if ever occurs. In a disease of so long standing, and of so peculiar a character, as asthma, those who are the subjects of it generally have their own remedy, to which they habitually have recourse. The remedies are very various, and indeed happily so, for what gives immediate and full relief to one person totally fails in another. The practice of smoking the leaves and stems of stramonium or thorn-apple, is now extensively and popularly resorted to; with some it succeeds admirably, to others it seems to be hurtful,—it may be tried. Anti-spasmodics and stimulants, as might be expected, are frequently beneficial. Æther and laudanum is a favourite combination; half a tea-spoonful of the former, along with twenty drops of the latter, in a wine-glassful of water. A tea-spoonful of sal volatile may be substituted for the æther, but is scarcely so efficacious. Twenty grains of ipecacuanha powder given in half a wine-glassful of water, to act as an emetic, may be of service, particularly if the attack has come on after a full meal, or if there is any suspicion of the stomach being loaded. Some experience much benefit from strong coffee, drank without milk or sugar. The inhalation of chloroform, a few drops sprinkled on a pocket handkerchief, has lately been found to afford relief; but this remedy, in the first instance, must not be tried without medical sanction. Dr. Watson recommends the fumes of burning nitre (saltpetre) diffused through the air of the apartment, by means of pieces of blotting-paper, dipped in a saturated solution of the salt, and dried. One of these, about the size of the hand, ignited, and placed upon a plate or tile in the room, quickly diffuses its fumes throughout the apartment. When there is great dryness and deficient expectoration, steam, inhaled either simply, or with a few drops of sulphuric æther is worth a trial. If there is much acidity of stomach, ten or fifteen grains of carbonate of soda with a tea-spoonful of sal volatile in a little water should be given. Indeed, when an attack of asthma is threatened or has come on, care must be always taken, as far as possible to remove any existing disordered action. A basin of warm tea, and retirement to a warm bed will remove the chill sensation. Constipated bowels ought to be relieved by a gentle dose of castor-oil, or of rhubarb and magnesia; flatulence or acidity corrected. Flatulence particularly must be obviated, and all sources of it avoided. Effervescing draughts, soda-water, and such-like, are almost always hurtful. The effects of situation and of atmospheric peculiarity upon asthmatics are most varied; some can breathe freely in clear dry air, which drives others into a damp cellar for temporary relief; a close warm room which suits one, will be unbearable to another. Individuals who are never free from asthma in some situations, lose their attacks as soon as they remove. These are peculiarities of which all should be aware. Certain odours produce asthmatic breathing in the predisposed: the powder of ipecacuanha is notorious for this effect; and the smell of new-made hay, so pleasant to most, produces hay-asthma in a few unfortunates.

The habitual asthmatic soon becomes aware how much his freedom from paroxysms of the disease depends on the state of the general health, particularly of the digestive organs. He may not be altogether able to command situation, he cannot avoid atmospherical vicissitudes; but he can by temperate living, exercise, attention to the bowels and to the functions of the skin in particular, pass long intervals without an attack. Sponging the chest and shoulders every morning with cold or salt water, friction being afterwards made with a towel or hair-glove, is a practice to be recommended, provided no other predisposition forbids. Asthma is one of those diseases long continued, marked in character, and not immediately affecting life, for which much may be done by well-timed and well-directed domestic management, whilst the frequent recurrence of the attacks renders the attendance of a medical man a serious consideration in the case of limited income. Nevertheless, an asthmatic patient ought from time to time to be examined professionally, especially should there occur any change in the nature of the paroxysm, which may be indicative of other and serious disease.*

ASTRINGENTS—produce contraction and condensation when applied to living tissues capable of such effects. In cases of relaxation or debility, in hæmorrhage, either external or internal, in increased and injurious secretions from glands or mucous surfaces, astringents are the chief remedy. The amount of astringent action, however, depends greatly upon the mode and circumstances of its application. The astringent principle in the vegetable kingdom, in the form either of tannic or of gallic acid, is very widely diffused. The principal vegetable astringents used in medicine are—Oak-bark, galls, kino, catechu, tormentilla, uva-ursi or bear-berry, logwood, &c. The mineral astringents, are the acids, alum, salts of iron, particularly the muriate, sulphates of copper and zinc, and nitrate and oxide of silver, and salts of lead. Cold in any form is astringent. Refer under the individual heads †

ATMOSPHERE.—See Air.

ATONY.—Deficient tone of the system, characterized by debility and laxity of the muscular fibre generally.

ATROPHY, Wasting—may be either general or local. General atrophy is in one sense natural to advanced life, when the powers of nutrition being diminished, the muscles, the brain, the organs generally, shrink. There may be fat, but at the same time much atrophy of the other bodily components. Atrophy occurring earlier in life, without *obvious* cause, ought to be regarded suspiciously. When an individual, without departing from ordinary habits, begins to lose flesh, the cause ought to be looked for, and if the change continue, the person should be submitted to a thorough medical examination, and the existence or not of incipient disease, if possible, ascertained. In young children, atrophy occurs as a consequence of faulty digestion, most frequently from improper feeding; it also is the result of a diseased condition of the glands of the belly, through which the nutrient portion of the food passes on its way to the general circulation. For this condition, cod-liver oil is *the* remedy, given in tea-spoonful doses twice-a-day, to an infant of six or eight months old, and the same quantity well rubbed into the skin of the abdomen night and morning. Some medicines, such as iodine, have the power of causing local or even general atrophy.

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* Asthma.—Hay Asthma—Hay Fever—See Appendix.

Atropia.—The active principle of Belladonna is a most energetic poison—also a very valuable anodyne, but one only to be safely employed by a medical man.

† Astringents.—To the list of vegetable astringents add Matico.

Local atrophy is liable to occur from various causes. Whatever diminishes the supply of blood to a part, will cause it to waste. Pressure on the main artery of a limb, obliteration of the smaller vessels of a part by previous inflammation, disuse of a member from paralysis or any other cause, are all followed by diminution in size of the part affected.

Refer to—*Age—Infancy.*

AUSCULTATION.—The application of the sense of hearing to the detection of disease. The art is most extensively useful to the medical man in the case of the chest; but in diseases of the abdomen it is a great assistant, and indeed is applicable to most circumstances, such as affections of the blood-vessels, fractures, &c., in which, movement makes sound audible. When the medical man elicits various sounds by tapping on the body with his fingers or by any other means, it is called percussion, and the present meaning of auscultation, is the practical knowledge of those sounds which are produced by the movements within the living body. Probably, no addition to the science and practice of medicine has more extended the power of detecting the existence and nature of diseased action than the practice of auscultation. The stethoscope, now so well known from its universal use by medical men, is but a conductor of sound, used for obvious reasons of delicacy, convenience, and in some cases to prevent unpleasant contact with the uncleanly, but the sounds are equally well heard by the unassisted ear. Some medical men affect to despise the aid of auscultation, and of the stethoscope, it can only be such as want either the capacity or industry to learn its proper use. The stethoscopic examination of females may always be conducted with perfect delicacy and sufficient nicety through a covering of linen, and never, as sometimes is done, though rarely, should this means of investigation be denied to the attendant practitioner.

AXILLA.—The arm-pit, is an important region of the body, on account of the large blood-vessels and nerves which occupy its space. A wound of the large artery in this situation, unless efficient means are speedily adopted to control the bleeding, must be quickly fatal. When from the copious flow of florid blood from a wound in or near the arm-pit, such an accident is supposed to have occurred, a bystander should with all speed exert pressure by means of his thumb upon the artery as it passed over the first rib, just behind the middle of the collar bone, until the effusion of blood ceases. This pressure of course must be kept up, but as to do so with the thumb simply, would be too fatiguing, some solid body—the handle of a moderate-sized key is generally recommended—must be wrapped in a few folds of handkerchief and used for the purpose. While this is done, if medical assistance be many hours distant, as an additional safeguard, firm graduated pads should be tightly fixed into the hollow of the axilla, and firmly retained by a handkerchief or small shawl crossed over the opposite shoulder, but this must be a supplementary aid, until the artery is properly secured by the surgeon. The pressure behind the collar-bone, cannot be relaxed for one moment without risk to life.

Refer to—*Artery.*

AXUNGE, Hog's-lard, is used as principal component of various ointments, but is often injurious, in consequence of being slightly rancid, in which case, instead of soothing, it has an extremely irritating effect, upon abraded or blistered surfaces especially. Even when applied fresh, if allowed to remain too long unchanged, it will become a source of irritation.*

AZOTE, Nitrogen.—One of the gaseous components of the atmospheric air, of which it forms 77 per cent. by weight. It is one of the most abundant and widely distributed of the elementary bodies. With oxygen, it forms various compounds, of which nitric acid is the best known. Combined with hydrogen it forms ammonia. Nitrogen is regarded as the characteristic element of animal substances; it is also present in vegetables, but in smaller proportion.

* Axunge.—Prepared Lard—See Appendix—Lard.

BACK.—Pains in the back may be owing to affection of the spine itself, or of the kidneys; to rheumatism of the muscles, —lumbago—or to sympathy with disorder in some distant organ—in females, in the uterus.

Refer to—*Spine—Kidneys—Lumbago, &c.*

BACON.—The flesh, or rather fat and flesh of the hog, salted and dried, and sometimes smoked, forms the staple article of diet of the English labourer; the dietetic breakfast of the invalid. In the former case, it is undoubtedly a relishing, convenient, and in some degree nutritious, addition to the general fare; at the same time, it is a question, whether it does not in many districts form too large a proportion of the ordinary nutriment consumed, and whether an advantageous exchange might not be made, in part at least, for a more farinaceous diet. Owing to the great proportion of fat in bacon, there is comparatively little of those elements of food, which go to build up the constituent tissues of the animal body, and which are contained so abundantly in the grains and pulses. Where the choice lies between bacon and bread, or bread and milk, or oatmeal and milk as consumed in Scotland and in the northern English counties, there is no question that much more real nourishment will be obtained from the vegetable grain and milk, which contain whatever is requisite for every portion of the frame, than from that of which simple fat forms so large a share, and which cannot do more than afford respiratory food, or at the best, add fat to the body. To full grown men this may be of comparatively little importance, but to growing children and youths, it must of necessity be a consideration, whether, in consuming the amount of nutriment circumstances permit, they consume that which really will afford them strength and substance, or not. Of course these remarks apply principally to the pure bacon fat consumed in such large quantities by the labourers and servants in the midland and southern counties of England. Bacon used as a dietetic, as it is usually done, with breakfast, is often of much service in cases of biliary disorder. It is the fat alone, toasted in slices before the fire, which must be eaten, the lean is hurtful, and must be discarded by the bilious dyspeptic. When used in this way, a slight aperient action is certainly exerted, and it is to this, gently but regularly carrying off its daily proportion of bile, that the undoubted beneficial effect is most probably to be attributed.*

BALSAM.—The term is derived from two Hebrew words, signifying the "prince of oils." It was formerly applied to many more substances than it is at present. The balsams of Peru and Tolu, and of Copaiba, are most generally known medicinally. The two former are used popularly as external applications. Tolu balsam is used to impart a pleasant flavour to lozenges, cough mixtures, &c., &c.; at the same time, it undoubtedly exerts a beneficial expectorant action. Quarter of an ounce of gum acacia powder, an ounce of Tolu syrup, one drachm and half to two drachms of ipecacuanha wine, and water sufficient to make up six fluid ounces, forms a pleasant and good cough mixture for children, to be given in from tea-spoonful to table-spoonful doses, according to age. When fever is absent, and the cough getting loose, a drachm of tincture of squill may be added with advantage to the above.

BALSAM OF COPAIBA acts decidedly upon the mucous surfaces of the body, and is employed in bronchitis, and in irritation of the urinary passages. It is extremely nauseous, and liable to disagree with the stomach. These properties are endeavoured to be overcome by enclosing the medicine in gelatine capsules, and by preparing it in various ways, as by covering the taste with aromatics, such as cinnamon or peppermint water. When active inflammatory or febrile action is present, copaiba must not be used.†

BANDAGES are strips of calico, linen, flannel, or of any other convenient material, employed to envelope in rolls, any portion of the body requiring artificial support, or upon which it is requisite to produce pressure, or to retain dressing. The art of applying a bandage well, that is, both neatly and efficiently, requires some practice and attention, but it is often a most useful accomplishment; for a bandage if required at all, must be properly applied, otherwise it is worse than useless; if therefore, none but the surgeon can undertake the task, it necessitates a much more frequent attendance on his part than might otherwise be requisite. In general, the first few applications of a bandage, will be made by the medical attendant himself, and ought to be in the presence of the individual to whom the duty may be afterwards deputed. By careful attention on the one hand, and kind explanation on the other, much may be learned and taught, but not all, as the inexperienced bandager will discover on the first attempt; by all means, therefore, let the first beginnings be made on some one in health, before the call is made to the invalid. Attention to the following directions, will facilitate the application of the previous practical lesson, or in some measure supply its place, if from circumstances it has been wanting. Whatever the material, the width of the bandage or roller must be proportioned in some degree to the size of the part to which it is to be applied, if too narrow it is apt to be stringy, and to cut, if too broad, it does not adapt itself readily to the inequalities, and the pressure is unequal. For an ordinary sized adult male leg, a bandage of two and a-half inches broad is a good proportion; for the arm of the same person, one of two inches ought to be sufficiently well adapted. The material for bandages must neither be too strong nor too weak, ordinary "shirting calico" is a very convenient texture.* The length, of course, must vary according to what is required, but rollers are usually put up in six or eight-yard lengths; they are better *torn* in one continuous strip, free from joinings, and without selvidge edge. The strip, when prepared for use, must be rolled up as firmly as possible, either into a single or double head, Fig. A., the former is much the most generally employed. If the bandage is a new one, of calico or linen, the loose threads of the roll at each end must be roved off, otherwise they are troublesome when the roller is applied. Bandages may be applied in simple circles, fig. B., in spiral, &c. or in reverses, fig. C. They are also applied in various other forms to suit the different portions of the body. In applying a bandage, the rolled-up strip being held in the right hand, the end which is commenced with is secured by the first turn. If it be the simple circular bandage, round the trunk of the body, or round a limb of nearly equal girth throughout, either naturally, or from swelling, the roller is carried round and round, each succeeding turn, slightly overlapping the one before it; if the spiral bandage be required, the rolls are carried up very obliquely, but if, as most likely, it is the reversed bandage, then, wherever the inequality of the parts prevents its being laid on flatly and evenly, the band must be turned upon itself, fig. C., so as to become reversed, the surface of the cloth which was next the skin, being turned outwards, and *vise versâ*. It is difficult to describe the manœuvre, and it is a little difficult at first to execute it neatly and well, but when practised it becomes perfectly simple. This is by far the most useful form of bandage, and a person who can put it on well, will have but little difficulty in accomplishing the other varieties.

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* BACON—See Pork.

† BALSAM OF COPAIBA—The dose of Copaiba is from ten to sixty minims. It is sometimes rubbed up with mucilage, or yolk of egg, or some aromatic water. Some chemists have it made up in the form of "Liquor," as more easy to take.

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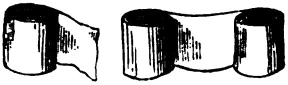
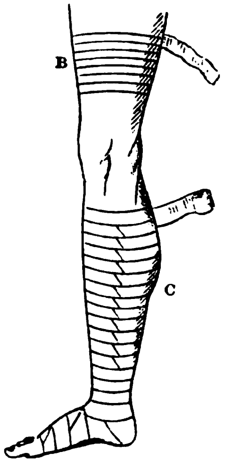
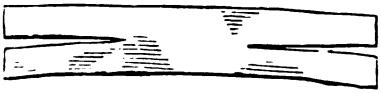
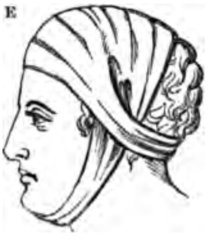




For the purpose of retaining dressings upon the head, nothing answers better than a close-fitting calico cap; a handkerchief will often serve every purpose, or the split cloth—fig. D—may be used; applied—fig. E—the upper tails being brought beneath the under ones, and fastened under the chin, the under tails being carried to the back of

D





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* Bandages.—A much cheaper and thinner calico than that known as "shirting," may often be used, bleached or unbleached. Where there is much tenderness over a part, or inflammation of the skin, even of an erysipelatous kind, it is well to use cotton wadding freely beneath any bandage it may be requisite to apply.

the head. *When it is desirable to retain the head in one position*, it may be done by bands attached to a cap, and fastened as required to a band going round the chest. When for this purpose, or to fix a broken rib, such a band is required, it ought to be from eight to ten inches wide, made of tolerably strong double calico, and sewed firmly round the body.*

To retain a pad or poultice in the arm-pit, a good-sized handkerchief answers better than any bandage, the middle being placed at the arm-pit, the ends are crossed at the side of the neck opposite, carried under the corresponding arm-pit, crossed and brought and tied on the shoulder. *Slinging the arm*, a very simple business, is often very badly done—in almost every case the fore-arm should be supported throughout its entire length, and it is generally well to include the hand, especially in children. The simple sling handkerchief may be put on as at fig. F, but a much more confining sling is made by enveloping the elbow in the long side of a triangular handkerchief, fastened up into a little pouch at the centre, and the point, including the hand, being fastened up to one of the ends going round the neck—Fig. G.

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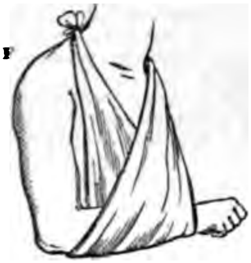

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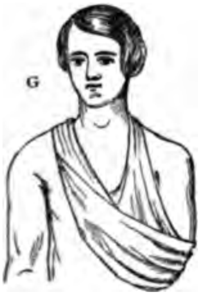
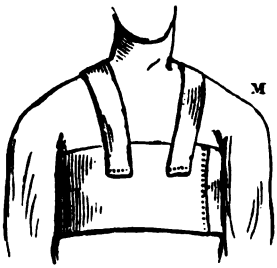
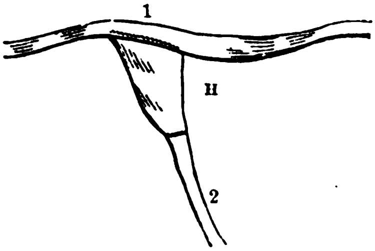


Upon the trunk of the body, dressings, blisters, &c., may be retained by means of a broad band of any convenient material, fastened round and prevented from slipping down by braces over the shoulders—fig. M.



For bandaging the abdomen, a broad band, of whatever material is suitable, is generally made, the ends split for convenience of fastening either before or behind, and a triangular piece cut out of either edge at the centre, and the edges joined, in order to fit the shape of the region. In order to retain poultices, &c., at or near the groin, a piece of cloth is to be shaped to fit the region—fig. H, a band long enough to go round the body, cross and fasten in front is to be sewed to one end—1, and to the opposite point another small band—2, is attached, which, passing between the legs, is brought up to the band behind. To retain dressings, &c., between the legs or nates, the double T bandage—fig. 1, is used. For the groin and parts adjacent, the spica or figure of 8 bandage is also used. A roller eight yards long is taken, the end secured by one or two turns round the pelvis, and then the bandage is brought down across the front of the thigh, carried evenly between



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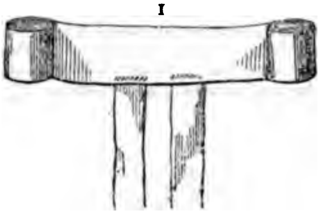
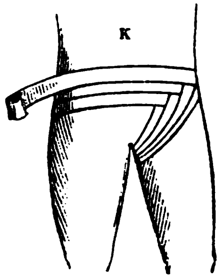
* BANDAGES—When a bandage has been rolled round any part to its full length, it requires to be fastened—this may be done by one or two pins, or by stitching, or more readily still, by simply splitting the end, returning the two ends thus made in opposite directions round the limb, and tying them.



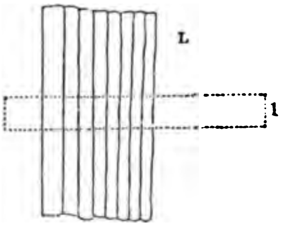
I

the legs, and again brought up and carried round the pelvis, this being repeated at each turn till the roller is exhausted, fig. K.



K

For the extremities, the simple roller applied in reversed turns is generally used. Bandaging from above downward may be required, but generally it is upwards. There are various methods of commencing the application of the roller at the foot. The heel is covered by laying the end on the inner ankle, bringing the roller under the heel, then round the ankle so as to secure the end, from thence going down to the toes, and carrying the bandage up from that point round the foot and leg, reversing where required. The arm is to be bandaged—with the requisite modifications—by the reverse, like the leg.* As a general rule, leg bandages, habitually worn, ought to be put on before the individual gets out of bed in the morning. A bandage which gives pain after its application, without obvious cause, ought to be taken off, and re-applied. If there is reason to suspect inflammatory swelling beneath, it will be well to try the use of cold water before disturbing matters. There is some little management required in taking off a roller as well as putting it on: as each successive turn is unrolled, it should be gathered in a bunch in the hand, and not, as is often done, three or four yards of bandage at full length pulled round the limb every time. A many-tailed bandage, fig. L—is used to bandage the leg where it is an object to avoid the slightest movement. It is formed of a number of short strips of bandage, long enough each to go once and a-half round the limb. They are placed obliquely, and overlapping one another: they may, or may not, be joined by a central strip, 1. Upon these arranged strips the limb is laid, and each strip in succession is brought round the limb, every succeeding securing the previous one. The advantage of the many-tailed bandage is, that it can be changed, either partly or entirely, if soiled, without the slightest disturbance. It is only necessary to attach a fresh strip to that which is to be removed, and pull the one away, and the other into its place. When, from movement, a bandage is liable to become displaced, the inconvenience is in great measure prevented, by brushing a weak solution of starch or gum over the turns as soon as applied. This is different from the starch bandage which is so useful in many cases—fractures, &c. For this bandage, the roller is thoroughly saturated, as it is put on, with strong starch or flour paste, and, if requisite, brown paper pasted on the top of the first bandage, and another dry one put over all. In thinly settled countries, where it might be requisite to move a person soon after a fracture, the foregoing application would prove simple, safe, and efficacious. It must not, however, be put on till inflammation has subsided. In many cases, in which bandages used formerly to be applied, they have been superseded by elastic materials, of which stockings and belts of all kinds are fabricated: elastic rollers are also manufactured. The flannel bandage unites at the same time, support and protection to the surface—it is useful in rheumatic cases, and also when applied over the abdomen in diseases of that cavity.



L

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* Bandage.—In bandaging the hand, the bandage may be from one and a half to two inches broad, according to circumstances; for the finger of an ordinary-sized man, it may be three-quarters of an inch. When the hand is bandaged, it is often well to fill in the hollows, of the palm especially, with tow or cotton wool. In bandaging a finger the band may first be carried round the wrist, crossed over the back of the hand to the root of the finger, round which it is carried, both up and down again, in spiral coils, it is then brought back to the wrist and fastened by splitting the end so as to make two strings.

BARBADOES LEG. See *Elephantiasis.*

BARK.—The term used alone, is always applied to the bark of the cinchona, also called Peruvian or Jesuit's bark, which was introduced into Europe from South America about 1640, and at first was enormously expensive. Many marvellous tales are told of the way in which the virtues of cinchona bark were first discovered by the natives of the country, but they have been proved erroneous. The remarkable power of bark in curing, not only intermittent fever or ague, but periodic diseases generally, and its efficacy as a general tonic, has rendered it one of the most valuable drugs possessed by man. The varieties of cinchona have been classed as pale, yellow, and red barks, but there are many more than these, and some of them are almost worthless as medicine. The kind of bark has now, however, since the discovery of quinine, become almost a matter of indifference to the general purchaser; when the drug itself, either whole or in powder is required, the only security is to procure it from a respectable chemist. The powder which was formerly given so largely, is scarcely ever now prescribed, but the infusion, decoction, and tincture of bark still retain their places. The infusion may be made by pouring a pint of boiling water upon an ounce of coarsely powdered bark, and allowing it to stand near the fire, in a covered vessel, for five or six hours; the dose, a wine-glassful twice or three times a-day. The decoction is made by adding double the quantity of water to the same quantity of bark, and boiling down to one-half. The dose about the same as the infusion. A favourite domestic method of administering bark, is to steep an ounce of the powder for a week in a bottle of port wine, and of this to give a small wine-glassful once or twice a day. Where the stimulant is admissible, the form is a good one. If the tincture is required, it is better bought. The characteristic properties of bark are concentrated in the alkaloid substances, quina and cinchonia. The former of these is much the most widely known and used, but the latter is considered by many equally efficacious. Quina or quinine is used in medicine, in the form of sulphate, or rather disulphate. Pure white in colour, it is in the form of silky crystals, and has a most intensely bitter taste. Its high price renders it liable to much adulteration; it ought, therefore, always to be procured from respectable parties. The dose of quinine is one grain twice a day, as a general tonic, but as an anti-periodic in ague, neuralgia, &c., much larger and more frequent doses are required. It may be given in pill made up with bread crumb, or dissolved, by the addition of five or ten drops of dilute sulphuric acid in a small wine-glassful of water, or it may be taken in a glass of sherry if stimulants are admissible.

As a curative agent in ague, and in diseases generally of an intermittent or periodic character, bark, either in its original state, or in the form of quinine, is quite unrivalled—as a tonic, in diseases of debility, in the advanced stages of fever, or at its very commencement, in weakened digestion, it is equally efficacious. In some persons, quinine, even in small doses, is apt to occasion headache and other uncomfortable symptoms, and to disorder the bowels. When given as a stomach tonic it cannot be long continued with advantage. Where there exists inflammatory action, or tendency to head affection, quinine must never be given, except by medical sanction. Quinine in combination with iron—the citrate of quinine and iron, forms an admirable tonic in certain cases, in one-grain doses. The use of quinine in various diseases, will be found under the separate heads, such as *Ague, Neuralgia, &c.*[*]

BARLEY, when prepared as pearl-barley, is one of the most useful additions to sick cookery; its decoction, "barley-water," being a pleasant and extremely beneficial demulcent in all affections of the mucous membranes, and forming a grateful and nutritious beverage in fever; it ought, however, to be made considerably thicker in the former case than in the latter. To make plain barley-water, two and a-half ounces of pearl-barley are to be well washed in cold water, half-a-pint of boiling water is then to be poured upon the grain, the whole boiled for a few minutes, and the water strained off, a couple of quarts of boiling water must then be poured on, the quantity boiled down one-half and strained. This process does not quite exhaust the barley, and another portion of water may be boiled upon it, by those to whom the saving is an object. A little lemon or orange peel is a pleasant addition to the beverage. A compound and very pleasant drink is made, by adding to a quart of simple barley-water, figs, sliced, and raisins, stoned, of each two and a-half ounces, liquorice-root sliced five drachms, and a pint of water, the whole to be boiled down to a quart and strained. This compound decoction is not so well adapted for a fever drink as the simpler form.

In irritation of the urinary passages, from gravel, or after the application of a blister, or from any other cause, barley-water is most valuable; its soothing properties are still further increased by the addition of an ounce of gum arabic to each pint of liquor. In catarrh, and irritable cough, or simply as an article of mild unstimulating nourishment, it is serviceable. The late Dr. A. T. Thomson recommended equal parts of barley-water and milk, sweetened with a little refined sugar, as a good food for infants brought up by hand. It may act upon the bowels.

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[*] BARK.—Quinine may be procured in a cheaper form than the pure white preparation usually known—the unbleached preparation is said to be quite efficient. Cinchonine, the other alkaline substance contained in bark is now sold, and used largely in the form of Muriate of Cinchonine, but it is very doubtful whether its action is as decided as that of Quinine--its taste is more unpleasant.

BAROMETER, the instrument by which the amount of atmospheric pressure is determined. Late observations would indicate that during the prevalence of epidemic disease, such as cholera and influenza, the indications of the barometer are more than usually affected.

BARRENNESS.—Sterility of the female, may be the result of defect of structure in some portion of the generative organs, or of functional disorder resulting from local or constitutional causes. Such cases always require the care and consideration of a medical attendant

BASILIC VEIN.—Frequently opened in the operation of bleeding from the arm.—See Blood-Letting.

BASILICON OINTMENT, or Resin Ointment, is made with three-parts of resin, three of wax, and four of olive-oil. The resin and wax are melted together, the oil added, and the whole squeezed through linen. It is a stimulant ointment not as much used at the present day as formerly.*

BATH.—Applications to the surface of the body, either general or partial, in the form of liquid, vapour, or gas, are now comprehended under the term bath.

Water-baths may be simple or medicated.

As regards temperature, they may be, cold, tepid, and hot.

As regards application, they may be general or partial, shower, cold affusion, douche, sponge, wet sheet.

Vapour, and hot air, are both used as baths.

The extreme vascularity, the nervous sensibility, and sympathies of the skin, and its important functions as an excreting organ, all render it a most important medium through which to impress and act upon the system generally. The subject, till of late years, has been strangely neglected and overlooked by medical men; brought prominently forward under the name of Hydropathy, or the Water-cure, by Preissnitz and his followers, it has unfortunately been carried far beyond its legitimate lengths, and become associated, in name, with quackery and undue pretensions. That much good is to be done by the use and application of water, simply, in the treatment of disease and disorder, there can be no question; neither can it be doubted, that much and serious evil has resulted from the indiscriminate and ignorant employment of its powerful agency. With the medical profession it rests to place the subject upon its legitimate basis, by taking it into their own hands, and employing it rationally, and scientifically.

The cold bath may be of any temperature up to 80° or 85°. Fahr., the effect upon the system varying, of course, according to the temperature, the length of time it is endured. and the amount of muscular movement exerted during that time. A single plunge into ice-cold water, may depress less than a longer continued bath of a higher temperature. As a rule, individuals of a weak nervous and circulatory powers, do not bear well the effects of cold bathing, it robs them of an amount of animal heat, which they cannot readily again make up; it produces nervous exhaustion, and, perhaps, internal congestion, unrelieved by reaction to the surface.†

When an individual, after the cold bath, in any form, remains chilled, the fingers and lips blue, the countenance pale; and when languor and drowsiness succeed, he may be certain that more harm than benefit is being derived from the custom, and that it must be modified or given up.

In such a case, if the bath has been usually taken before breakfast, the hour should be altered to a couple of hours after that meal, this with some will be quite sufficient to make the difference between agreeing or not; indeed, it requires a person of very good vital power to derive real benefit and comfort from bathing before breakfast. If the change in hour does not alter the effects of the cold bath, something may be due to its low temperature; or the bather, especially if he be not a swimmer, may expose himself too long to the depressing influence, he may be in the habit of going into the water after his powers have been exhausted by much exercise, or when he is in too chilled a condition. All these points require consideration, before, either the undoubted good effects, or the comfort of bathing are given up as unattainable. The last point mentioned is one on which particular caution is required; many persons in dread of going in to bathe too hot, run to the other extreme, and allow themselves to become so chilled, that reaction will not come on. After coming out of a cold bath, the skin ought to be well rubbed with a rough towel, till a glow is felt; or the hair glove, now so well known, may be used. The above remarks apply to the application of cold water generally, to the skin, in whatever form. Few old people can take cold baths with advantage, and the perseverance in their use may lay the foundation of rheumatic, urinary, or other disease. Those who are liable to head affection, should not take the general cold bath; for them the shower bath is preferable. Females should not bathe in cold water during the menstrual period. Some persons who cannot bathe in fresh-water, can do so in the sea; the saline ingredients producing a more stimulant effect upon the skin; sometimes, however, the stimulation goes so far as to produce a painful rash, which forces the person to give up the custom. The restorative and tonic effects of cold bathing, are undoubted in many cases, if the mode of taking it be properly regulated. As a *general rule*, five or six minutes immersion is sufficiently long.

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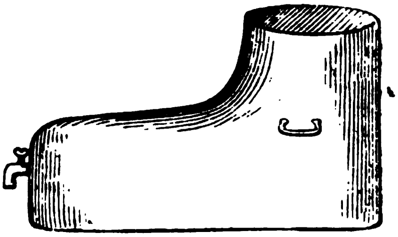
* Basilicon or Resin Ointment—The form for making in the new British Pharmacopeia stands thus—take of Resin in coarse powder eight ounces; Yellow Wax four ounces; Simple Ointment sixteen ounces—melt with a gentle heat, strain the mixture while hot, through flannel, and stir constantly till it cools.

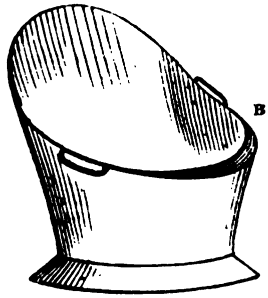
† Bath, Cold.—Injury from—See Gout.

Sea-water undoubtedly exerts a more tonic influence upon the bather than fresh, moreover its temperature is more equable, and seldom so low as that of the latter. From the beginning of June to the end of September, according to weather, may be considered the sea-bathing season, during which the temperature of the water on our shores averages from 55° to 70° Fahr. When a bath is either ordered as a remedy, or desired as a comfort, and if when cold it does not agree—*

The tepid bath, of a temperature varying from 85° to 94° may be used—about 88° is an agreeable and convenient standard. Of course the tepid bath involves the use of a receptacle for the water. It does not produce the shock to the system like the cold, and the person may remain in it from a quarter of an hour to twenty minutes. The tepid bath relaxes and purifies the skin, and promotes the insensible perspiration. For the purposes of cleanliness and comfort it is most generally applicable. After fatigue from travelling, hunting, shooting, &c.; in irritable states of the system, with dry or chafed skin, the tepid bath is at once grateful to the feeling, and salutary. Neither the tepid bath, nor any other, is well if taken soon after a full meal.

The warm, or hot bath is, or ought to be, a remedial agent only, not one for general use. Its temperature ranges from 95° to 102° Fahr.—96° is the most general standard. The warm bath is used to promote re-action, to allay pain, spasmodic or inflammatory, to soothe convulsive action, or carried to its fullest extent, to cause faintness. The time for remaining in the warm bath is generally from twenty to five-and-twenty minutes, but this must be regulated, somewhat, by the effect required. The hot bath of a temperature of 100° is a powerful stimulant agent, to be used cautiously, and rarely without medical advice; in disease characterized by extreme depression, coldness, &c., it is useful. In the employment of these baths generally, persons who are the subjects of any organic disease, or have a tendency to acute attacks of functional disorder, such as determination of blood to the head, &c., must be very cautious, and ought if possible to have medical advice. The regulation of the temperature of baths ought never to be left to the sensations, the thermometer is the only trustworthy guide, and, indeed, is an article which no house ought to be without; the price of the instrument is now extremely low, and whether for the bath, the temperature of the room, or the instruction of a child, it is equally useful. Baths are made either to contain the whole person—the "slipper bath," fig. A—the hip bath, fig. B—or the foot and leg bath, fig. C. In choosing a bath, it is well to have one which will answer the desired purpose with as small a quantity of water as possible. Every house where it can be afforded should have the means of providing a bath, and every village ought to have its moveable "Parish Bath," for the use of the poor.





B

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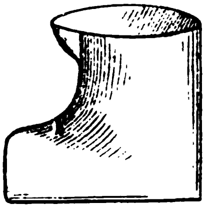
* Baths.—Baths of artificial sea-water, are now readily procurable at a moderate cost by means of "Tidman's Sea Salt."



Mode of Application of Bath.—The Shower Bath, whether of fresh or salt water, whether quite cold or tepid, is a valuable agent in the treatment of many nervous affections; it will suit some whom the general bath will not. It is well for persons of weak habit, or who suffer from the head, to have a thin layer of warm water put in the bottom of the shower bath before getting in. Useful hand shower baths are now manufactured for children.†

Cold Affusion—*See Affusion.*

The Douche Bath consists of a compact stream of water, either warm or cold, allowed to impinge forcibly upon any portion of the body. In some bathing establishments, on the continent especially, the douche stream is of great force and bulk. Domestically, the most familiar douche instrument is the pump, and a most efficient one it is to strengthen a limb which remains weak after an accident, such as fracture or sprain,—it must be used till aching is produced. The most convenient domestic douche is a watering can without a rose, but a jug will do; in short, whatever will send a stream of water upon the part required. Additional force is obtained by the person administering the douche standing upon a chair.

Sponging the skin with water is used in lieu of a bath, for purposes of cleanliness and comfort. It may produce depression if employed before breakfast. Partial sponging, sponging with tepid water, changing the hour, or having a cup of coffee on rising may obviate the effect. Rough friction is to be employed after.

The wet sheet bath is sometimes, by misnomer, called the cold wet sheet. It is, in fact, a warm bath, or rather a large warm poultice, kept warm by the animal heat. It is formed by enveloping the person in a sheet, wrung out of cold or tepid water, and covering or packing him up with layers of blankets; very free perspiration is the result. It is a most useful remedy and might with advantage be more generally used. Sponging with cold water after the use of this bath is occasionally practised.

The vapour bath produces free perspiration, and may be used whenever that is required, as in incipient cold. It is very relaxing. Many different forms of vapour bath have been invented. A small kettle to place on the fire, with tubing to convey the steam underneath the blanket or oil-case in which the person is enveloped, forms a good vapour bath. A simple extempore vapour bath may be made by placing a vessel of boiling water underneath the coverings of the patient, and keeping up the steam by means of hot stones or metal.*

The hot air bath is used for the same purposes as the vapour bath, but is more stimulating. Apparatus of various kinds for this bath may be had at the manufacturers.

Medicated baths are used, but only under medical direction.

Hip baths and Foot baths are used where a full bath is unnecessary. The former, either cold, tepid, or warm, is extremely useful in affections of the loins, hips, &c. The foot bath, generally used as a derivative, ought to be as high a temperature as can be borne, and ought to redden the skin after the immersion. If a stronger effect is requisite, an ounce of mustard, and a couple of handfuls of salt may be put in the water. To reap the full benefit of the foot bath, the extremities should either be clothed in woollen stockings, or wrapped in flannel immediately on coming out of the water. The fact must always be kept in mind, in using the foot bath in cases of insensibility, that it may be so hot as to scald, and that it cannot be complained of. The best mode is to use the thermometer, and not to raise the heat above 110°.

Fomentations, poultices, &c., may all be regarded as partial baths, but will be treated of under their separate heads.

BATH—City, celebrated for hot springs, the only ones in England. The waters are used for bathing, and are drank. They are found useful in gout, rheumatism, paralysis, liver and stomach affections. Persons who suffer from impaired health, in consequence of long residence in a hot climate, frequently derive considerable benefit from the use of the Bath waters. A pint of the water is said to contain,—

Muriate of lime . . .	1·2
Muriate of magnesia .	1·6
Sulphate of lime . . .	9·5
Sulphate of soda . .	0·9
Silex	0·2
Oxide of iron . . .	0·01985
Loss	0·58015
Saline ingredient grains .	14 grains.

Carbonic acid 1·2 cubic inches.

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* BATH.—A very powerful and convenient vapour bath may be extemporised thus—Procure three or four new porous bricks, boil them in water for an hour and half, till perfectly saturated, then place them on the floor; seat the patient on a chair—of open cane work, if possible—over the bricks, and pin a blanket round the neck or waist, as the case may be, so as to surround the person, and confine the steam, which rises abundantly. This form of bath is far more available in the houses of the poor than a hot water bath, and is more efficient—for sciatica and rheumatism of the lower limbs it is of much value. BATH—Turkish Bath—See Appendix. † BATH, WARM—How to manage for children—See Children.

BATTLEY'S SOLUTION OF OPIUM is a secret preparation, but one largely prescribed by medical men on account of its efficacy. It is more purely sedative than the other preparations of opium, and is said to be twice the strength of laudanum, but this it is not. Twenty drops of the sedative solution are almost equal to thirty-four of laudanum. It more certainly produces sleep than the latter, and excites less.

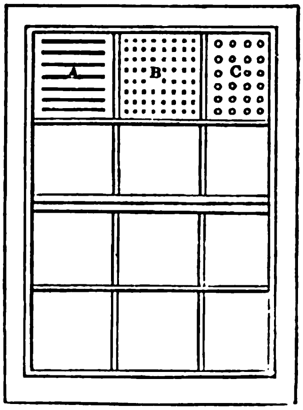
BEAN.—The various species of bean are most nutritious to those whose stomachs can digest them; they are used either young and fresh gathered, or old. The nutriment they afford, as shown in the case of the miners in South America, who live almost exclusively upon them, is calculated to sustain a high condition of muscular development and vigour. Garden-beans as brought to table in this country, must be avoided by those of weak digestion. They are less likely to disagree if deprived of their skins.

BEBEERINE.—A recently introduced substitute for quinine. A powerful bitter, and slightly stimulant tonic.*

BED.—Bed-room — in health — in sickness.† The fact that civilized people spend on an average, about one-third of their lives in their bed-rooms, is quite conclusive as to the importance of their salubrity being a first consideration with every one. Whatever the public rooms, bed-rooms should be as spacious, lofty, and well aired, as circumstances will permit. Unfortunately the reverse of this is the general rule, and we have close, small sleeping apartments, crowded and ill-ventilated nurseries, and bad health. Good ventilation will do much, but it will do far more if aided by plenty of space. During the day-time, there is much less danger of persons generally, suffering from want of fresh air, than during the night, when, in sleep, they are many hours confined to one place. Every respiration of the sleeper contaminates a certain amount of air, and as a matter of course, the smaller the space around, the sooner will the contamination of the whole body of air contained in that space be completed, it will become loaded with an amount of carbonic acid, injurious to health. The room must be sufficiently large,—and this is rarely the case in modern houses—to supply pure air for respiration during six or eight hours, or some means must be provided for carrying off the impure atmosphere. This, certainly, is not to be effected by closed doors and windows, and blocked-up chimneys, assisted in their injurious operation by closely-drawn curtains, which might be contrived for the special purpose of enveloping sleepers in their own exhalations, rendering sleep unrefreshing, and waking a painful, rather than a pleasurable operation; it cannot be otherwise, after the poison of carbonic acid has been regularly inhaled for the last few hours of slumber.

If the door of a sleeping-apartment *must* be locked, the upper panels ought to be perforated for the admission of air, but the purpose is much better answered by the door being left ajar, while it may be rendered equally secure by means of a chain-bolt. There is an advantage in admitting the fresh air by this channel, for it must be warmed in some degree in its passage through the house.

Air may be admitted directly from without, through the window, left slightly open at the top, or better, by means of barred glass, or perforated zinc, fig. 1, A, B, C.



Some of these zinc plates—C—are made so that the perforations may be opened or closed at pleasure.

It is not sufficient to let in pure air, the impure must have some means of escape, and for this, the chimney—and no sleeping-room either for rich or poor should be without one—is the most ready channel, and perhaps the best, if under proper arrangements. In former times, when fire-places were ample and lofty, the chimneys were of themselves sufficient to carry off bad air; but since, by change of fashion, the openings have been lowered and contracted, they cannot do this. The air, warmed by respiration, ascends to the top of the room, where it must remain till become cooler, but not more wholesome, it descends to be rebreathed, and reaches the level of the breather's nostrils before it can pass up an ordinary chimney. All this may be obviated, by making a proper opening for the escape of the impure warm air into the chimney. Dr. Neil Arnott's chimney ventilator, fig. A, is contrived for this purpose. A brick is taken out of the wall at the top of the room, so as to make an opening into the shaft of the chimney, the opening being kept closed, and smoke prevented during the use of fires, by means of a balance valve, *b*. Thus, a bed-room to be healthy, *must* have a sufficient entrance for good air; *must* have a proper exit for that which has been rendered impure, should have space if possible; the greater the number of sleepers, the more requisite the fulfilment of these conditions. It must also be borne in mind, that a light, and especially a gas-light, equally with the lungs contaminates the air. It is advisable when a light is burned in a sleeping-room, to place it so that the fumes may pass up the chimney, if a gas-light, it ought to be provided with a special tube to carry off its fumes; without this it must be a source of evil, with it, of good, for in the latter case, it increases the current of air through the room generally.*

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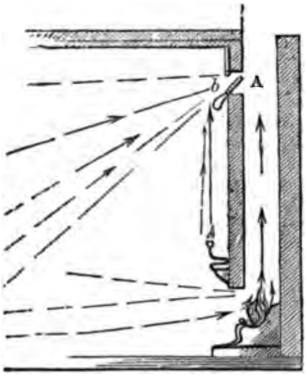
* Bebeerine, or rather Sulphate of Bebeerine, may be given in pill or in mixture. In the latter case five or ten drops of dilute sulphuric acid are added to each dose. The dose is from two to four grains. Bebeerine is considered by some an efficacious tonic in "Whites."

† Bed or Bed-room.—See Appendix.—Articles, Sick-room—Air, etc.



Fires in bed-rooms are frequent sources of impure air, uncomfortable sleep, and morning headaches. During the first hours of night, when burning briskly, the fire promotes ventilation; but when, as often occurs, towards morning, it smoulders down, and becomes choked with ashes, it has not sufficient power to create a draught; the current of air is reversed, instead of passing up the chimney, it passes down, carrying with it into the room a very deteriorated atmosphere, perhaps loaded with sulphurous gases. None who regard health will have curtained beds; it is difficult to conceive what other purpose the huge masses of drapery around a "four-post bed," can serve, than to collect dust, and when drawn, to confine impure air around the sleepers.

For the young and middle-aged, hair, or where these cannot be afforded, firm wool mattresses should always be used; feather beds never. The cotton mattress requires more frequent dressing and cleaning than the hair. For the aged, who are deficient in natural warmth, a feather bed is quite admissible. However perfect the provision for ventilation of a bed-room during the night may be, it must require additional purification in the morning. As a rule, the window should be opened as soon as the occupant is about to leave the room, or even before, in summer, and the bed-clothes turned down over the end of the bedstead, or thrown entirely off, for at least an hour before the bed is made up for the day; in this way, perspiration, and emanations which take place from every animal body, are evaporated and got rid of. Turn-up beds, box-beds, and all enclosures of the kind, are perfect abominations. Slops of all kinds should be removed from sleeping-rooms as early as possible. Children even more than adults require fresh pure air during sleep, yet how often are nurseries crowded and shut close up during the night; the beds made as soon as left vacant; and the little creatures confined to the room in which they have slept, for a great part of the day. This ought not to be, nor would it be, but for the generally prevailing ignorance upon all points connected with health, and the rules for its preservation. There are few parents but would make sacrifices to give their children a change of room were they sufficiently aware of the importance of so doing; even self-interest would dictate the course, could they know how often the first cause of illness, and all its expenses, has originated in the badly-aired nursery.

It is much to be regretted that in the houses of the poor, crowding at night is so frequently compelled by circumstances; if it must be so, its evils ought to be counteracted by the means of ventilation already pointed out, and by strict cleanliness; at the same time, floors should not be washed in damp weather, and when they are washed, it should be done early enough in the day to permit of their being thoroughly dry before the room window is closed for the night. Rooms which are at all crowded at night, ought to be whitewashed at least twice a-year.

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* BED-ROOM.—It must be confessed that Arnott's chimney ventilator has not come into such general use as was expected, owing doubtless to its frequently being attended with inconveniences, and the question of thorough, safe, and agreeable ventilation is still unsettled. Refer to Appendix.—Articles, Sick-room—Air, etc., for additional information.

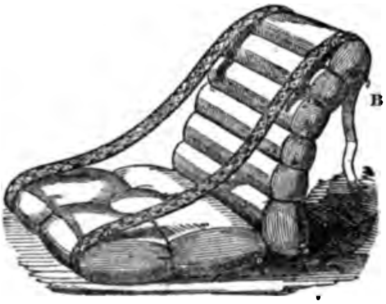
The chamber of sickness requires all the provisions for health to be attended to with increased care, more especially if the illness be of an infectious character. In this case, as free ventilation with cool pure air as the case will admit—the window, if possible, being open during the day—must be continually preserved; and all superfluous furniture or clothing, of cotton or wool especially, and bed hangings, removed; dirty linen must be taken away at once, and excretions—kept, as they should be, for the inspection of the medical attendant—removed to an unoccupied room, or out of doors. The zeal for cleanliness, however, must never, either in infectious disorders or not, go so far as to dictate washing the floor of an apartment occupied by the sick; a gentle sweeping with tea-leaves to prevent dust, is all that is allowable. Cooking of any kind is out of the question.[*] If it is possible to have a second bed into which the sick person can be moved occasionally, it is a valuable resource. A thermometer to regulate the temperature of a sick room is at all times a safer guide than the sensations of individuals, and the best average temperature to be maintained is from 55° to 60° Fahr. All sources of unpleasant or teazing noise, creaking hinges or shoes, the ticking of a clock, &c, are to be obviated; if there is a mirror into which the invalid can gaze, it should be removed. Vessels, whether for food or medicine, should be carefully cleansed each time of using. The medicines ought to be kept in some sort of order in a place by themselves, never, as is frequently done by the poor, placed in the window, where they are liable to be decomposed by the action of light, or by the heat of the sun's rays. All external applications should be unmistakably marked.

Even in disease of an infectious character, if proper ventilation and cleanliness be observed, the attendants upon the sick have comparatively little to fear, though at the same time, every additional precautionary measure is to be adopted. Fumigations of tobacco, burning nitre, &c., &c. are worse than useless; they give no real protection, and only deteriorate the air, or irritate the patient.[†] Chlorine is the only effectual disinfectant to be employed, and by far the best preparation for the purpose is Collins' patent disinfecting powder, which requires no trouble, and maintains a continued, sufficiently effective, and not unpleasant chlorinated atmosphere in the apartment. Vinegar, sprinkled or burned, has no power of protecting against, or of destroying the power of morbid emanations; but it is sometimes grateful to the patient, and pleasant to the attendants. Darkening a sick room is too often resorted to, and should not be done except by order of the medical attendant, for some special reason. Bed and body linen of course require to be frequently changed, in fevers, &c., once in twenty-four hours if possible, that is, if it can be done without exhausting the patient.

Those in attendance upon the sick, especially of an infectious disorder, should live sufficiently well, and, if accustomed to it, take a moderate proportion of wine or malt liquor; but not, as many do, have recourse to *extra* potations of brandy, which can afford no power of resistance, but only render the body more susceptible of noxious influence, when the depression which follows excess supervenes. A sitter-up should have tea or coffee during the night, and those who have to go about a fever-patient in the morning, ought previously to take a cup of one or other of these beverages. The breath and exhalations generally of any one labouring under an infectious disorder are to be avoided; and as much as can be done, any continued position, towards which a draught of air may be directed *from* the patient. With these precautions, those whose duty calls them to attend upon the sick, ought never to shrink from that duty, but face it with cheerfulness and trustful reliance upon Providence.

There are now so many inventions for promoting the comfort and convenience of the sick, that it would be impossible to enumerate them here, but a few of the most useful requisites may be suggested.

A measure, marked for spoonfuls, to be used instead of metal spoons, which vary in size and are apt to be stained. A drop or minim measure; a piece of water-proof sheeting, either of gutta percha or some one of the numerous materials now manufactured; a fan; a night-light, either simple or made to keep water hot; an air or water cushion, of waterproof material; a most admirable form,—fig. B—which could be used



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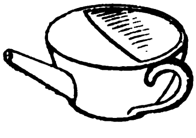
[*] Of course the same remark applies to the airing of linen, or of bed-clothes, in a patient's apartment. Such a practice is totally inadmissible unless under most exceptionable circumstances.

[†] Within the last ten years, the number of disinfectants has been largely increased; or rather, the forms in which the disinfectant agents are brought forward, have been greatly varied—See Appendix, "Disinfectants."

either as a cushion or as a bed-rest, adapted to any elevation, was shown in the Great Exhibition.[*] A "sick-feeder" or half-covered cup,—fig. A—with a spout and handle, is most useful for giving either liquid aliment or medicine in severe illness, when it is desirable that a patient's head should not be elevated. After illness of any kind, the chamber which has been used ought to undergo a thorough cleansing; after fever or other infectious disorder, everything should be *individually* cleaned. The room itself ought to be papered, painted, or whitewashed afresh, the bed-frame taken down, scoured, and with other furniture exposed to the open air for some days; feather-beds and hair mattresses taken to pieces, their coverings washed, their contents re-baked or fumigated; whatever can be washed, should be. Expose articles which have been about the sick freely to the action of air or water, and they will speedily get rid of the noxious particles,—"fomites," as they are called. Shut them up, or bundle them together, and they will retain the power of propagating disease for months, it may be for years.



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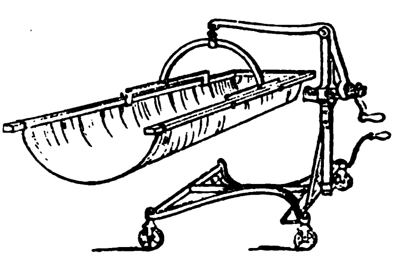
The crowded rooms of the poor have been mentioned—bad enough in health, they become ten times worse in sickness, and this is chiefly felt in country districts. In towns, a person seized with an infectious disorder, if accommodation and means at home are insufficient, has the hospital as a resource, in the country he has not; the consequence is, that to their own detriment and that of others, the sick are compelled to be lodged in the crowded family dwelling, with every chance of the disease spreading through the house or village—the case is continually occurring. It might easily be prevented, by providing some isolated cottage in a healthy situation, properly *laid out* and furnished for the reception of the sick, with accommodation for a wife or a mother when nursing the invalid.[†] Such a small village hospital, whether for the reception of those afflicted with infectious disease, or indeed any severe disease, would be most invaluable to all; it might be maintained for the use of a small surrounding district at trifling expense; and there is many a female recipient of parish relief who might be worse employed than attending to it.[‡]

BEDS.—Water—Elastic—Spring, &c.—All who have attended much upon the sick, must be painfully aware, that with even the greatest precaution, it is sometimes impossible to prevent the formation of "bed sores" upon the most prominent and exposed parts of the body. To obviate this, and relieve the great suffering attendant upon long confinement to the horizontal posture, many different kinds of beds have been contrived. It is not necessary to describe the various constructions of bed, but persons should have some idea of the means of relief in their power. Dr. Arnott, to whom the profession and the public are indebted for numerous useful inventions connected with mechanical medicine, has invented a hydrostatic or water-bed, which in some cases answers admirably. Mr. Hooper, of London, has recently manufactured, in conjunction with his water-pillows, a most excellent invalid's bed, of vulcanized india rubber; and an adjusting bed, made of a number of extended straps of webbing, any one of which can be relaxed at pleasure, is also a recent invention, and one adapted to fulfil many useful indications in illness. It is manufactured by Spencer and Co., of Fenchurch Street, London.

There are many other varieties of bed for fractures, spinal disease, &c., &c.

Since the above article was completed, the "Invalid Lifter," invented by Dr. Thomson, of Stratford-upon-Avon, has come under the Author's notice. This most convenient apparatus—*see figure*—has been constructed for the purpose of raising and removing from bed, and into an adjoining room if required, heavy and unwieldy patients, reduced to a state of helplessness, by disease or accident; and likewise for the relief of dying people in the last days



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[*] Made by Mr. Hancock, Goswell Mews.

[†] Within the last ten years "Village Hospitals" have been established in various districts in England. The author is unaware that there was a single institution of the kind, when the above was written.

[‡] Bedroom—Bed—Bed sores—See Appendix.

sad hours of their existence, whose sufferings are often greatly aggravated by the impossibility of raising or moving them from bed by ordinary means.

It is made of wrought iron, and the lifting power is obtained by means of a crane, which is raised and depressed by a screw. The crane is attached to a frame or carriage upon four casters, between two of which it is erected, and projects permanently over the carriage. From the end of the crane is suspended a cradle by means of a swivel hook, which admits both of rotary motion, and of being detached from the crane. The apparatus is moved or drawn by a handle attached to one of the front casters, and these being connected by a rod, attached to a small lever projecting behind each caster; they are brought into parallel action when moved, and the facility of turning greatly increased.

A narrow strong sheet with a broad hem along each side being slipped under the patient, and his pillows adjusted within the upper end of the sheet, a strong wooden rod is passed through each hem, and a leather strap passed through a hem at the head of a sheet is buttoned to the end of the rods.—This arranged, and with such bed-clothes over the patient as may be required, the carriage is run under the bed, with the point of the crane brought over the patient. The cradle being attached to the crane and lowered so as to admit of the rods and sheet being hooked to the cradle, the patient is then raised from bed by the action of the screw, and when sufficiently elevated may be drawn from it, either in the position in which he is raised, at right angles with the crane, or turned round into any other more suited to the capacity of the apartment, or to his removal through doors and passages into an adjoining one.

The length of the carriage is 39 inches, and the width between the casters 27 inches. It turns in a space 7 feet square, is applicable to any size or shape of bed, and one person with a little practice is quite capable of working it—of raising a patient of any dimensions from bed, and of moving him into an adjoining apartment.

By means of a slit in the sheet the patient can be readily placed upon a bed-pan, and by joints in the wooden rods the legs are let down, and he can be placed upon a night-chair.

It also may be made available occasionally for the relief of patients disabled and confined to bed, but who retain the use of their hands and arms, viz., by attaching a stirrup-shaped handle to the crane instead of the cradle, and adjusting it over the patient, in the position most favourable for him to lay hold of it, and so enable him from time to time to alter and ease his position in bed.

The motion in raising a patient is so smooth and equal, that he can hardly perceive the precise moment at which he is elevated from his bed; and the efficiency of the apparatus altogether for the purposes intended has been satisfactorily tested by the result of several years' experience of its use.

The price of each Invalid Lifter, with one pair of sheets, is £5 10s.

BEE.—See Stings.

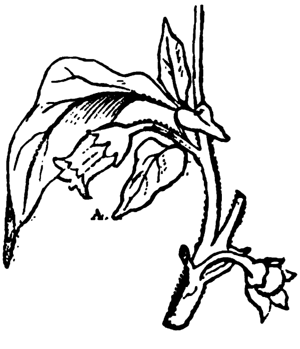
BEEF.—Beef Tea.*—Beef, the most strongly nutritious animal flesh in use, is not quite so digestible and light as mutton for those of weak digestion; but this depends in some degree upon the part selected. A slice from a coarse-grained shoulder of mutton, may be much more difficult of digestion than one from the under side of a sirloin. As a general rule, however, mutton is preferable for the dyspeptic and the convalescent.

Beef tea is a most important article in sick cookery, but is very often badly made, and much too weak for the purposes for which it is ordered. In diseases of exhaustion, or in the last stage of fever, strong beef tea is perhaps the form of nourishment most easily assimilated, which is adapted to afford powerful support to the system. Beef tea may be made from beef cut into thin slices; but the method recommended by Professor Liebig is superior to any other. This celebrated chemist directs a pound of lean beef, freed from fat and bone, to be chopped small, as for mince meat, and to be "uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two," to be "strained through a towel." A little salt, or any allowable seasoning, may be added.

BEER.—See Ale.

BEET-ROOT contains so large a quantity of sugar, as to make its extraction an object of commerce. The sweetening powers are less than those of cane-sugar. The root itself, when boiled, is easy of digestion. Its beautiful colouring matter might often be substituted for more deleterious substances.

BELLADONNA†—The deadly nightshade grows wild in many parts of Britain. The juice of the plant is powerfully narcotic and anodyne. It is a valuable medicine in proper hands. Domestically, belladonna should be known as a poison, which has proved fatal to children, who have been tempted to eat its violet-black shining berries, which are about as large as a wild cherry, and furrowed on each side. The flowers, fig. A, grow solitary from the axils of the leaves, are bell-shaped, and purple at the border. Wherever the plant is found,



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* Beef-tea.—For some additional directions on the making of beef-tea—See Appendix—Article Cookery.

† Belladonna.—As a Liniment to relieve pain, rub up from ten to thirty grains of Belladonna extract with one ounce and half of opium liniment—rub in one or two tea-spoonfuls over the affected part. This Liniment should not be used where the skin is broken. There is a form for a Belladonna Liniment in the British Pharmacopœia.

children should be warned against it. The symptoms of poisoning by nightshade, are dryness of the mouth and throat, difficulty in swallowing, a kind of laughing delirium, followed by insensibility, and extreme dilatation of the pupil. With such symptoms, a powerful stimulant emetic cannot be too soon administered, and will probably make the case clear, by bringing up the black skins of the berries. Cold douche to the head—mustard plasters to the back and legs, and sal volatile internally, are appropriate remedies, and may be used until the arrival of the medical attendant.*

Belladonna is said to have the power of protecting against the infection of scarlet fever, when given in repeated small doses, during the prevalence of the disease, to those exposed. The evidence is very contradictory. Eight grains of the extract are to be rubbed up with a fluid ounce of water, and of this, from five to twenty drops, according to age, given twice a day. It would be right to try the remedy during the prevalence of a malignant epidemic.

BELLY.—See ABDOMEN.

BENZOIC ACID, obtained from gum benzoin, is in the form of white silky scales, and has a penetrating not unpleasant odour. It has been found useful in cases of obstinate wetting the bed in children. Dose: five grains made into pills with bread crumbs, twice a day, to a child of ten years old. It is an ingredient in paregoric.

BERIBERI AND BARBIERS.—Diseases peculiar to India.—See *Tropical Diseases.*

BILE.—The peculiar fluid secreted by the liver from the blood, is in man of a brownish yellow colour, and has a bitter taste. Its composition is complex, and it undoubtedly fulfils more than one important office in the functions of the body. Bile is separated by the liver from dark blood, which passing through that gland, on its way to the heart, from the abdominal organs, is thus purified of noxious matters, containing a large amount of carbon, before re-entering the general circulation. The separated bile is discharged into the duodenum,—See *Alimentary Canal,*—and mixing with the digested food, appears to assist in fitting certain of the constituents for absorption into, and assimilation or transformation in the body. A large proportion of the constituents of bile are along with the food re-absorbed into the system, and are probably, intended and adapted to support the processes of respiratory combustion. It is chiefly the colouring matter of the bile which is discharged from the bowels in health. Bile itself when duly formed, even when absorbed along with its colouring matter into the blood, as we see in jaundice, scarcely produces injurious effects upon the system, but the elements of bile allowed to remain unformed in the blood, act almost like a narcotic poison.—See *Liver, Digestion, &c.*

BILIARY DISORDER, INCLUDING BILIOUS OR BRITISH CHOLERA.—Biliary derangement is so frequent an ailment in civilized life, its history is so intimately connected with the general principles of health, and the prevention, or at least alleviation, of the disorder is so much under individual control, that it has special claims upon our attention.

It has been shown in the last article, that in ordinary health there must be a certain balance maintained, between the secretion and ultimate destination of the bile, the assimilation of food, and the functions of respiration; that in the excreted bile, the blood is freed from certain principles—containing a large amount of carbon—which could not be retained in it without injury to health; that further, the bile, after being separated from the blood by the liver, and thrown out into the general tract of the alimentary canal, performs an important part in the function of assimilation, and that lastly, a considerable proportion of the bile—without the colouring matter—is re-absorbed into the system, with the nutriment, in such a state as to fit it—or rather its carbon—for union with the oxygen which enters by the lungs, so that while heat is generated, the carbon, by taking the form of carbonic acid, is fitted for excretion by the lungs or skin. Upon these facts, hinge the causes of one at least of the most prevalent biliary disorders, that which depends upon the introduction into the system of a proportion of carbon aliment too great to be removed by the oxygen obtainable through the lungs, and which has its ordinary termination in the attacks which are termed, "bilious attacks," "sick head-aches," "bowel complaints," "bilious or British cholera," according to the manner in which the patient is affected.

The second form of biliary disorder depends upon torpidity or inactivity of the liver itself. The third form is the reverse of the first: the gland itself may be sufficiently active, but the blood does not afford sufficient material for it to work upon, and bile is deficient. This is most frequent in children.

In addition to those affections, there is jaundice, which will be treated of in its proper place.

The first form of biliary disorder, that dependent upon the accumulation of carbon, or of the elements of bile in the blood, must evidently be owing to one of the following causes, or a combination of them · either too much food, especially of a highly carbonized character, such as fats, oils, sugars, &c., is habitually consumed, or the habits are too physically inactive to keep the functions of respiration, animal heat, and motor change, and circulation, in healthy action; or the external atmosphere is so temporarily or permanently rarefied by heat, that the individual cannot obtain the full supply of oxygen in respiration; lastly, the excretory functions of the skin may be impeded. Now, although it is unquestionable that some individuals have a much greater tendency to biliary disorder than others, it is also unquestionable, that all have it in their power, in a great degree, if not entirely to control or obviate that tendency, by attention to, and practical application of, the above principles. In those who suffer habitually from sick head-aches—which depend generally upon the presence of bile in the stomach—and from other forms of biliary disorder common to this country, there is generally traceable great error in diet; fats, melted butter, pastry, meat, malt liquors or wine, and other highly carbonized articles of diet, are taken too freely, or at least, are too regularly indulged in, whilst at the same time very little active exercise is taken; the blood becomes overloaded with carbon; languor, sleepiness, head-aches, giddiness, loss of appetite, furred tongue, depression of spirits, are the consequences, and continue, until at last the system is relieved, wholly or partially, by an excessive excretion of vitiated bile, which passes off either by vomiting or purging. That deficient exercise has much to do with the formation of such a state of system, is evident from the much greater prevalence of such attacks among females, who take little exercise, than among men; and, indeed, they would be still more prevalent among the former, were it not for the monthly relief. Habitual neglect of the skin, also, by impeding the excretion of carbonic acid from its extensive surface, undoubtedly assists the evil. Again, we have bilious attacks, more especially those known by the name of British cholera, prevalent among the community generally—but at particular periods of the year —that is, in summer or autumn, during or immediately succeeding a prevailing high temperature, and to this high temperature must we look for the cause; for whilst as a general rule, habits have not been changed, people have been—in consequence of the rarefied atmosphere—inhaling a less proportion of oxygen than usual. Liebig calculates the difference at one-eighth between winter and summer in Germany. Here we have another traceable and universally acting cause, permitting the accumulation of carbon in the blood, and one which is likewise found to operate upon Europeans especially, who, in tropical climates, adhere too nearly to the habits of comparatively full living, admissible in colder climates.

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* BELLADONNA.—Belladonna Plaster is useful for allaying local nervous pain; it is applied and worn as other plasters, care being taken that the skin is unbroken.—Belladonna Extract as an external application is specially applicable in milk abscesses—See Breast. As an internal remedy, Belladonna is too powerful to be safe in unprofessional hands—See Atropia. Animal charcoal—common bone black, is an excellent antidote in poisoning by Belladonna, if given at once; a dessert spoonful or more may be given in water.

From what has now been said, it is evident how much the avoidance of biliary disorder is under individual control; the question is in reality not one of medicine, but of diet and regimen; medicine certainly may be required, but not by any means to the extent it is often used. Those who are habitually liable to biliary disorder ought most strictly to regulate the diet; fats of all kinds—except, in some cases, toasted bacon—must be avoided; butter either entirely avoided, or used in very small proportion, and never when melted; animal food may be taken in moderation, but should never be consumed at night; much sugar, strong tea or coffee, malt liquor, and the heavier wines, such as port, or sweet wines, are all bad. In addition to plain meat, bread, well-boiled vegetables, farinaceous preparations, and fruits, ripe or cooked, are the best articles of diet, and if stimulants are required, a little sherry, brandy, or gin, with water. Exercise regularly in the open air *must* be taken, and the skin kept clear and in an active state. If the bowels are confined, a pint of warm water, used as a clyster, will be a most suitable aperient, or one or two of the compound rhubarb and blue pills may be taken; it is much better, however, not to trust to medicine. When from any cause, the languor, sleepiness, furred tongue, &c., give notice of an impending bilious attack, five or six grains of blue pill should be taken, and followed by a black draught, or dose of infusion of senna, or of castor oil, in the morning. Having thus cleared the system, it is better to trust to diet and regimen, than to a repetition of the dose as a corrective of indulgence.

British Cholera.—When, during prevailing high temperature, an individual is threatened with an attack of bilious cholera, or, as it is frequently called, when unattended with vomiting, "bowel complaint," there is for some time previously, much languor and sleepiness, especially after meals, head-ache, pain between the shoulders, furred tongue, loss of appetite, fulness in the region of the stomach, and high-coloured urine. The complexion, perhaps, is dusky. When such symptoms show themselves, one or two doses of calomel or blue pill—four grains of the former, six or eight of the latter—is nearly all that is required for their removal.*

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* Bile.—The valuable new medicine, "Podophylline," is perhaps more efficient than even the mercurials, in relieving the symptoms of overloaded liver. The ordinary dose for an adult is from one quarter to one-third of a grain. Two grains of Compound Rhubarb Pill, one grain of Extract of Henbane, and quarter of a grain of Podophylline form a pill that may be taken with advantage by most—See Appendix—Article Podophylline.

The mercurial may be followed or not, as required, by a dose of senna tea, or castor oil. The diet of course ought to be restricted. If there is any tendency to heat or feverishness, ten grains of carbonate of potash, along with a tea-spoonful of sweet spirit of nitre, taken in a wine-glassful of water, or of infusion of dandelion, twice-a-day, will relieve.

If the symptoms above-mentioned are neglected, the acute bilious attack, usually known as bilious or British cholera, is the winding up; it is ushered in by a sensation of chilliness, giddiness or headache, bitter taste in the mouth, and nausea in most cases, quickly succeeded by vomiting of bile, and griping and purging. An attack of this kind may pass off lightly, leaving the patient better than for some time previously, or it may be so severe as to threaten life. In the latter case, the vomiting is incessant, the purging profuse, painful, and exhausting, and the motions which were at first feculent and bilious, become light-coloured, like thin gruel; there is much thirst, cold and blue skin, covered with cold perspiration, cramps, much depression, the pulse imperceptible or nearly so, and perhaps the secretion of urine suppressed. In short, it is difficult to distinguish the attack from one of the malignant Asiatic cholera. Between the severe form and the mildest, the disease occurs in every degree of severity; if severe, the attack is always painful and alarming, and may be dangerous; and in the country, or at a distance from medical aid, requires to be quickly dealt with. The first thing to be kept in mind is, that the manifestations are not the disease; that the actual outbreak is only an effort of nature to free the system of morbid matter; that we may guide, control, and stop, if matters go too fast, but must not thwart. A mild attack of British cholera is better left alone, as far as medicine is concerned, diluent drinks, such as barley or rice water, &c., being given to dilute the bile, which is generally acrid, and to assist its passage from the system. In a severer attack, when pain, purging, and other symptoms become urgent, it is time to interfere. The patient if not in bed—which, however, frequently happens, from the attacks coming on in the night—should go there at once, and hot applications,* bran and such like, used to the bowels to relieve the pain; or more extensively to the limbs, back, &c., if there is much coldness or cramp. A mustard plaster, the size of the hand, to the pit of stomach will sometimes abate the sickness—general friction is serviceable. Twenty to five-and-twenty drops of laudanum should be given to allay pain, and moderate purging, and repeated two or three, or even more times in succession every half-hour till some effect is produced—if the first dose comes up, the second *should be given* at once, if that does not stay, then the third. If the stomach will not retain liquid of any kind, if it is to be procured, the powder of opium should be given in a one-grain pill; and if it remains, the dose repeated, if required, in an hour, or a half-dose given. Sometimes the vomiting is so obstinate that no ordinary means will stop it. Many families in the country now keep creasote for toothache; in such a case as the above, a single drop rubbed up with a little gum or thick barley-water might be tried, and repeated once; or four to eight drops of chloroform in a little sugar and water, or brandy and water, might have the desired effect. Two tablespoonful doses of the ordinary chalk mixture, either with or without the laudanum, or half-drachm doses of aromatic confection will be useful when purging continues. In addition to these means, diluent demulcent drinks, barley and rice water, with isinglass or gelatine dissolved in them, are to be freely taken. In case of extreme depression, stimulants, hot brandy and water, &c., are to be administered. The attack of bilious cholera is so sudden and its course so rapid, that if there is any great distance to send for medical assistance, there will be full time for the employment of the above means, not only to the relief, but also to the safety of the patient.†

After the attack has somewhat subsided, keeping in mind that the tendency of it is to clear the system, the bowels must not be allowed to get confined, but kept slightly relaxed; if requisite, a dessert-spoonful of castor-oil, with half-a-dozen drops of laudanum, or a small dose of rhubarb and magnesia, with or without laudanum, may be given. The diet should be chiefly of a diluent character for a short time, but nourishing. Should any of the symptoms which preceded the attack, such as languor, fulness about the region of the liver, pain between the shoulders, furred tongue, &c., continue, a few doses of the compound rhubarb and blue pill will be advisable; if the stomach remains weak, from five to ten grains of carbonate of potash in a wine-glassful of infusion of calumba or gentian will be found useful—if the tongue is perfectly clean and there is debility, one grain of quinine in half a glass of sherry twice-a-day.

There are, however, states of biliary disorder, generally connected with stomach derangement also, which are not the consequence of excess of aliment, but may even arise from the reverse, and which require the aid of medicine for their removal; the liver is torpid, the blood is insufficiently freed from its superfluous carbon, and in addition to impaired digestion, the individual suffers from the train of symptoms above enumerated as attendant upon such a condition of the circulating fluid, mental and physical depression being the most prominent. The bowels are confined, and the motions inclined to be light or chalky, at other times almost black. There is pain between the shoulders, and sensation of fulness in the region of the stomach. When such a train of symptoms occurs, it is better to take proper medical advice; if this cannot be done, in order to relieve, a few grains of blue pill, or grey powder,[*] given every night, or every other night, are each to be followed by a moderate dose of castor oil, or infusion of senna in the morning. At first, the infusion of taraxacum, with five to ten grains of carbonate of potash, and, if the stomach is weak, a tea-spoonful of tincture of calumba, taken twice-a-day, will be of much service. The diet should be nourishing and easy of digestion, such as plain meat, potato, and light puddings, but pastry, cheese, and oily preparations of all kinds—except toasted bacon—must be avoided. In cases of debility, wine, malt liquor, or a little weak brandy and water, whichever generally agrees best, are not to be allowed merely, but must be taken medicinally in moderation. Daily exercise to the extent of slight fatigue, relaxation from business, cheerful company, early hours, and attention to the state of the skin by means of the tepid bath or sponging, are all assistant means, and will, even of themselves, be sufficient to remove slight attacks. Where the bowels are obstinate, clysters of tepid water are especially useful, and preferable to the continual use of purgatives, which weaken the digestive power of the stomach. When the tongue is tolerably clear, and debility of the stomach or of the system generally, remains, twenty drops of dilute nitric acid may be taken with advantage twice-a-day, either in water or in infusion of taraxacum, with or without the addition of a tonic bitter.[†]

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* The hot water stomach cushion of Mr Hooper, of Pall Mall, is by far the most convenient means of applying heat. It is calculated to stand the temperature of boiling water without injury, and is quickly got ready.

† It is not unusual to find an attack of British or Billous Cholera precipitated by some unwonted exertion, such as a ride ou horseback, or a long quick walk. In such cases, doubtless, the first action upon the liver is mechanical.

It is important to have a clear distinction in the mind between the two conditions of biliary disorder treated of. In the former, that which precedes the attack of British cholera, the liver fails because there is more given it to perform than it can do, even in its most healthy state; in the latter, the liver itself is incapable of doing the work it ought, to maintain a healthy condition of body. In the former case, reduction of diet is evidently the most common-sense prevention and cure; in the latter, the organ must be brought up to its work; and made, if possible, to do its part in the assimilation of sufficient nutriment for health. The diet is to be regulated, not diminished, the general functions kept active, and especially the nervous system, by moderate exhilarating exercise both of mind and body, is to be maintained in such a state of regular tonicity, as will enable it to impart that due stimulation—which is so much wanted in these cases—to every function connected with assimilation. When cases of chronic biliary disorder present feverish symptoms, the mercurial at night, and the aperient in the morning are still to be used, and also the potash and taraxacum, but without the bitter; animal food and stimulants strictly forbidden, and milk and farinaceous diet substituted; the tepid bath used, and clysters.

Although such general directions as will be found useful in the treatment of chronic biliary disorder have been given, it is not recommended that home medicine should be resorted to when medical assistance is within reach. Much certainly may be done by judicious management, but it is probable that efficient medical advice will save both time and suffering.

In children, particularly those of fair complexion, deficiency of biliary secretion is frequently evidenced by the irregular action of the bowels, and light-coloured chalky motions. It is of course desirable to correct this, but it must not be attempted by the "grey powders," so usually resorted to. They, will, undoubtedly, for a time improve the appearance of the motions by causing an increased flow of bile, but this is obtained at the expense of the system, which does not appear able to furnish sufficient material for the secretion—in a few days the motions are as deficient in bile as ever. Such a condition can only be permanently corrected by a good allowance of animal food, and general tonic treatment, iron being especially requisite. A few grains of grey powder however, being given once or twice a week.[‡]

BINDER.—The bandage which is put round the abdomen of the mother in child-birth, and which forms a most important requisite, both as regards the comfort and safety of the patient. Many forms of binder are used, but none are so generally applicable, or so efficient, as a light, small table cloth, or shawl, or square of calico, folded broad like a cravat, so that it will embrace the whole of the lower portion of the abdomen, and can be tied in a double knot at the back

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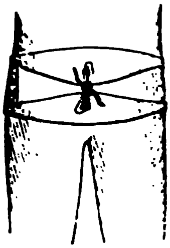
[*] As the Podophylline pill mentioned above.

[†] For persons liable to periodical bilious attacks, popularly called "sick headaches," there is no better preventive than a Podophylline pill, taken once, twice, or thrice a week, with an occasional ten days' course of Nitric Acid, as recommended above.

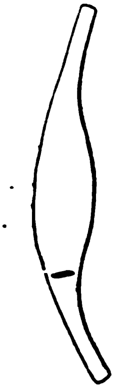
[‡] In such cases, the following is most useful—Take Solution of Potash, one drachm: Potassio Tartrate of Iron, twenty grains: Distilled Water, three ounces: give two tea-spoonfuls in a little milk twice a-day.

outside the bed-dress, where it is under the control of the attendant. The binder ought always to be put on at the commencement of labour, and tied so as just to give comfortable and moderate support to the abdomen—as the process of parturition progresses, it must be gradually tightened, and as soon as the child is born, as much so as will afford comfortable support—lastly, after the separation of the after-birth, it must be tightened again. In all these changes, the best guide is the feeling of the patient; comfortable efficient support being all that is requisite; if tied too tightly, the binder will do mischief. The greatest benefit which results from the early application of the binder, is the prevention of faintness. The sudden emptying of the abdominal cavity which takes place when the child is expelled, is quite as frequently a cause of the above symptom, as loss of blood, the effect being in great measure purely mechanical, and similar to what occurs when fluid is drawn from the belly in dropsy. This mechanical support given by the binder, moreover, exerts regular and regulated pressure, which must give some assistance to the efforts of the womb, and lastly, after the concluding processes of labour are over, it is no slight advantage to have a firm efficient binder in its place, instead of having to disturb the patient by its adjustment. In cases of hemorrhage or flooding, such an arrangement may be of the very highest importance. In the course of an hour or two after labour is concluded, the form of binder which has been recommended above, can be exchanged for the ordinary broad band, fastened round the abdomen by pins, or buckles, or for one of the numerous forms of binder, shaped to fit the abdomen, of which fig. A represents one of the most useful. It is made of the shape represented, of double calico, and about ten inches wide in the centre; one of the ends being rather broader than the other, so as to admit of the latter running through the slit, fig. A, i., and both being sufficiently long to be brought round and fastened in front.

A



A, i.



Refer to—*Child-birth.*

BIRTH.—See Child-birth.

[*] BISMUTH is a metal. Its only medicinal preparation is the oxyde, sometimes called the nitrate of bismuth, which occurs in the form of a yellowish white, rather heavy powder. It is found useful, and frequently prescribed in nervous pain of the stomach—gastralgia—and in waterbrash. In the distressing diarrhœa of the last stages of consumption, it will sometimes afford relief when other remedies have failed. The usual dose is five or six grains, twice or three times a-day, in any thick vehicle, such as linseed-tea, or thick barley-water.

BISTOURY.—A kind of small surgical knife.

BITES.—See Wounds.

BLACK-DROP—is a preparation of opium, formerly secret. It is, essentially, a preparation of acetate of morphia, and is devoid of some of the stimulating properties of crude opium. Black-drop is estimated at three times the strength of ordinary laudanum.

BLACK-DRAUGHT—so well known as a domestic remedy, is a mixture of infusion of senna with Epsom salts, and frequently some aromatic, such as ginger or caraway. It is a certain and active purgative, but not well suited for weak habits. Quarter-of-an-ounce of senna-leaves may be infused in a pint of water, to this is added one ounce of Epsom salts, along with it if there is no fever, a couple of drachms of tincture of senna—of this mixture, a small teacupful should be taken every two hours, till the desired effect is produced.

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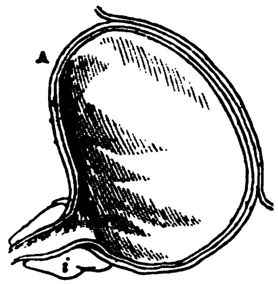
[*] Bismuth.—In badly prepared Bismuth Oxyde there is often a slight admixture of arsenic which cannot fail to be injurious. The author has reason to speak highly of a new preparation, the "Liquor Bismuthi," of "Schacht," in irritation of the mucous membrane. The Carbonate of Bismuth is also a good preparation—See Stomach. Bismuth is now "White Bismuth" of British Pharmacopœia.

BLADDER.—The urinary bladder fig. A, is the receptacle for the urine, after it has been secreted by the kidneys, and previous to its discharge from the body; it is an oblong membranous bag composed of three layers or coats, the middle one being muscular, and is situated in the pelvis, just behind the pubic bone, rising, however, when much distended, into the abdomen. At the neck of the bladder, in the male, is situated the prostrate gland, fig. A, i.



Many of the diseases and disorders of the bladder are brought on by carelessness, neglect, or too great subservience to the conventional restraints of society; those persons especially, who habitually or necessarily are frequently compelled to restrain the desire, and forego for a time the relief of emptying a distended bladder, are liable to affections of the organ.* In early childhood, but sometimes even beyond puberty, the bladder habitually empties itself during sleep; night after night this occurs, and proves a serious annoyance, and expense too, from the consequent destruction of bedding. The habit or disorder is sometimes extremely difficult, if not quite impossible, to eradicate. The regular use of the cold hip-bath every *morning* is one of the most efficient remedies, and the tincture of muriate of iron, or "tincture of steel," as it is frequently called, given twice a day, in ten-drop doses, in water, is often useful. Benzoic acid, and nitrate of potash are both said to have proved successful. In such cases, fluid is to be taken in small quantity only, in the evening. Malt liquor always increases the evil. Where the habit is inveterate, it is better to use one of the india-rubber urinals attached to the person, than to allow the patient to be a nuisance to himself and others.

Rupture of the bladder is almost invariably fatal. It is generally caused by blows or falls when the viscus is full of urine, but sometimes without violence, simply from over distension. In the former case, intoxication is in most instances the first cause of the accident; the individual sits drinking till the bladder is quite full, staggers out to relieve himself, and either falls or stumbles against some object, the urine is effused into the cavity of the abdomen or surrounding tissue; agonizing pain, and extreme vital depression are the immediate consequences, and the patient speedily dies. In the latter cases, when the bladder is ruptured from over distension without violence, it is generally caused by long retention of urine, from obstruction to its discharge. In this case, the first sensation of rupture is rather one of relief than otherwise, the rent being at the lower part of the organ; the fluid is diffused into the loose tissues of the seratum and surrounding parts, giving rise to severe inflammation and mortification. The bladder is sometimes ruptured by extreme violence, such as that of the passage of a cart over its region. In all these cases, the attendance of a surgeon is absolutely requisite, if possible. Death is all but inevitable, but if life cannot be saved, much relief may be afforded by the moderate use of stimulants, and the free use of large doses of opium.

STRANGURY.—During the prime of life, the bladder is not generally liable to suffer from chronic disorder, except in persons of dissipated or intemperate habits, but one acute and very painful affection, strangury —generally caused by the application of a blister—is not uncommon.† The affection is characterized by burning pain, extending through the urinary passages up to the neck of the bladder, accompanied with constant and distressing desire, and straining effort to pass urine, which will only come away in very small quantities, often mixed with blood. While it lasts, the condition is a painful and most distressing one. The means of relief are warm hip-baths, demulcent drinks copiously taken, such as barley-water with gum arabic, linseed tea, &c. Warm clysters, consisting of half-a-pint of gruel containing twenty or thirty drops of laudanum, give much relief; twenty drops of laudanum, or ten or fifteen drops of the sedative solution, may be given by the mouth, and repeated if requisite. When the patient is not in the bath, hot bran poultices are to be used over the lower part of the abdomen.

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* **BLADDER.**—Railway travelling is undoubtedly one of the means of inducing bladder ailments. Persons about to travel long distances, particularly by express trains, *should be careful to empty the bladder before starting, and should limit the amount of fluid taken previous to the journey.*

† In some persons a mild form of strangnary is caused by mustard, horse-radish, &c., when eaten.

Stoppage of Urine.—With declining years, the bladder becomes more subject to disorder and disease; perhaps the most frequent affection is sudden inability of the organ to expel the urine. This may arise from its having been allowed to become over-distended; from cold; from drinking hard malt liquor—a very frequent cause in England—or sometimes from external violence. The case is one of much distress and alarm, and being not devoid of danger, cannot be too soon placed under proper medical treatment. In the meanwhile, the person should be got into a hip-bath, temperature 96°, and kept in for at least half-an-hour, a warm bed being ready to receive him on coming out; hot bran poultices must be ready to be applied as soon as he is placed in it; just before entering the bath, a table-spoonful of castor-oil with ten or fifteen drops of laudanum should be administered. It is not improbable, that relief may be obtained by these means; but all efforts at straining must be avoided as useless and hurtful. Of course fluid must be eschewed as long as the stoppage continues. Whilst the above measures are being carried out, medical assistance ought to be procured; for should other means fail, the introduction of the catheter must be resorted to, to save life. Nevertheless, the prosecution of the mode of treatment recommended, if it does not prevent such a necessity, will certainly facilitate a sometimes difficult operation.

Weakness of Bladder.—Weakness of the bladder, and inability perfectly to retain the urine, is a frequent disorder of advanced age, it often commences with and is accompanied by imperfect emptying of the organ, either through carelessness or weakness. Sponging the lower parts of the abdomen, &c., &c., with vinegar and water, or salt-water, may be of service. Dr. Day recommends the use of tincture of ergot of rye in these cases; but as a general rule they should be placed under regular medical superintendence. The same may be said of that very troublesome complaint of old age, catarrh of the bladder, in which large quantities of thick mucus are discharged.

[*]Stone in the bladder may be suspected when the urine is liable to become bloody after exercise, when there is pain in the bladder and surrounding parts, in the back and down the thighs, and when the stream of urine is apt to stop suddenly during the act of passing. Under such circumstances, proper advice cannot be too soon obtained.

Refer to—*Kidney—Urine—Blister.*

BLINDNESS.—Loss of sight may be the one effect of a great variety of causes. Disorder of the brain itself, or sympathy of that organ with the stomach, may be the occasion of the symptom; the optic nerve or its expansion within the eye, named the retina, may be the affected parts; or, lastly, some of the transparent structures of the organ of vision may, by becoming opaque, obstruct, wholly or partially, both light and vision.

Loss of sight may come on suddenly, or very gradually; in the former case, it is generally consequent upon some disorder, actual or sympathetic, of the brain or nervous tissues, and is always to be regarded seriously. It may last only for a few seconds, or it may be permanent. In diseases such as apoplexy, or water in the head, loss of sight is a very constant symptom; at least, the eye is insensible to the usual impressions; in these cases, it is dependent upon pressure on the brain. In diseases of exhaustion, or after copious loss of blood, the same symptom occurs.

A transient loss of sight, unrepeated, and occurring unaccompanied by symptoms indicative of head affection, will sometimes be occasioned by simple disorder of the stomach, which abstinence and one or two doses of the blue and compound colocynth, or rhubarb pills, will rectify; but in the event of the symptoms recurring, and with it other symptoms, such as headache, giddiness, or sickness, medical advice should be instantly procured; in the meanwhile, if the person be of *full* habit, a few leeches, may be applied to the temples, a smart dose of calomel and compound colycynth taken, and abstinence and perfect quiet enjoined; if the habit be spare, milder action upon the bowels, moderate diet and quiet will be the safest course till the case is seen by a medical man. For other information on this point, see *Amaurosis.*

Blindness which ensues in consequence of changes of structure in the eye itself, is either the result of active inflammation, or if not, is very gradual in its approaches.

Refer to—*Eye, diseases of.*[†]

BLISTER.—The term is applied either to that which causes effusion of serum—the watery portion of the blood—underneath the scarf or outer skin, or it is used to denote the effect itself, that is, the bag or vesicle containing fluid, which is formed. There are various methods of producing blisters on the skin, in fact, any powerful irritant may have the effect; and we may

[*] **Bladder.**—Irritability of the bladder, that is, a certain degree of uneasiness, or slight pain, with difficulty of retaining more than a small quantity of urine, is not an uncommon affection. It often requires skilful and persevering medical treatment, but is at times much and quickly benefited by an infusion, made from the running underground stems of the common couch grass or twitch. See Appendix—Article Triticum repens or twitch grass.

[†] **Blindness.**—Colour Blindness. See Appendix.

regard the effusion of fluid underneath the insensible or outer skin, as an effort of nature to protect the true and acutely sensible skin from the action of the irritant substance. Steam, boiling water, strong ammonia, mustard, and many other irritants, have the power of raising blisters, and are used for the purpose by medical men; but by far the most convenient, certain, and generally adopted agent, is the *cantharis vesicatoria*, or Spanish fly. The most usual form in which this is used is the common blistering plaster, which being spread upon leather, or some other material, is applied to the skin.† A solution of the active principle of cantharides in strong acetic acid, and a collodion blistering fluid are also used; but the most convenient, elegant, and sufficiently efficacious applications, if properly applied, are the blistering tissues or papers.*

To the old form of blistering-plaster, there are many objections; its weight and smell in the first place, its tendency to leave small particles of irritating matter adhering after its removal, and more especially its liability to occasion strangury—*See Bladder*—rendered an improvement desirable, and the end has been quite accomplished by the very efficient blistering tissues now manufactured; they are light, almost free from smell, are removed with the greatest ease, are not liable to affect the kidneys or bladder, and are remarkably well suited for children. In applying a blister to any portion of the body, the first *care must be to ensure accurate contact with every portion of the surface it is intended to affect*, the fitting to irregularities being ensured by snipping the edges; and all hairs, whether about the head and face, or elsewhere, being shaved off clean, just before the blister is put on. In the case of the paper blisters, it is better to add the weight of a folded napkin placed about them. If the old form of blistering-plaster be used, a few drops of oil rubbed over the surface will increase its activity, and facilitate its removal; this, however, is still better ensured, and the injurious effects apt to follow the use of this preparation prevented, by the interposition of a piece of thin muslin between the plaster and the skin. The evening is generally the best period of the four and twenty hours for the application of a blister, which, on an average, takes twelve hours to rise well, but sometimes much longer, especially in those who have very dry skins, or are far advanced in life, or when there is much nervous depression. In children, and in those of very delicate skin, the time is much under twelve hours. In the former, the action of a blister ought to be closely observed, and the more so the younger the child, and the application removed as soon as it begins to rise; a soft bread poultice being substituted, and kept on for a few hours, full rising will take place. When a blister has well risen, the plaster being removed, and a cloth placed so as to catch the fluid, the vesicle or bag is to be punctured at the most dependent part, by the point of a penknife, or with a pair of scissors, and the thin skin which has been raised allowed to subside unbroken, and the dressing applied. If there are more vesicles than one, each must be punctured, unless very small. It is very common for medical men to be told that a blister has only risen in one place, or at the lower part, but this is generally erroneous, the blister having risen all over, but the fluid gravitated to the lower side. It sometimes happens that instead of watery fluid, blisters contain a jelly-like matter, which will not run out; no attempts at squeezing should be made in such a case; if the dressing be applied, gradual oozing will drain the vesicles.

Very various methods of dressing blisters have been proposed and practised, that more generally followed, being by means of lint and linen spread with lard, or simple cerate or spermaceti ointment. The use of jewellers' fine cotton, or cotton wadding, has been proposed by Dr. Douglas Maclagan of Edinburgh, and is said to answer well; but by far the pleasantest and lightest dressing the writer has met with, and one which once used has always been preferred by his patients, is Brown's Tissue Dressing, which consists of a cerate evenly and thinly spread upon fine tissue paper. This elegant dressing forms as it were a second cuticle, it becomes adherent to the surface by means of the dried serum, and is so light as to require no extra applications to retain it in place, in this point differing from the heavy, ointment covered, serum hardened, lint or linen, which in many situations it is impossible to keep on, and which falling off, usually pulls the cuticle with it. When a blister, from mismanagement, or any other cause, becomes inflamed, or as it is popularly called, gets "the fire in it," a soft bread and milk poultice applied for a few hours will give great relief. Blisters should always be healed; the custom of dressing them with irritant ointments to keep them "open," is at once barbarous and injurious, the teazing pain, by its irritating effect upon the nervous system, does much harm. If continued counter-irritation is required, it is much better to apply a succession of small blisters, not on, but close to the same spot. "Flying blisters" are blisters which are taken off as soon as the skin is reddened and irritated—a diluted mustard poultice answers much the same purpose.

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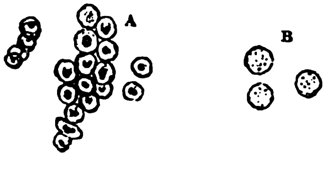
* Brown's Blistering Tissue, and Smith's Tissue are both good preparations. The former is the cheapest.

† The spread adhesive plaster is now more generally used as the medium for applying the blister plaster to the skin.

Blisters are often applied domestically, without medical advice, but often injuriously during the continuance of acute inflammation and fever. In such cases, especially when put on, just over, or very near the affected part, they do harm, they increase general fever, and may aggravate instead of relieving the local disease. This error is frequently perpetrated in cases of acute inflammation affecting the throat, or in pleurisy, when a bran poultice would be much more serviceable. In persons who are suffering under, or who are liable to affections of the kidneys, blisters must not be used, except under medical sanction, and that will be given in but few cases. Persons are sometimes needlessly much alarmed at the fact of a blister not rising. Unquestionably, such a result may be owing to extreme and fatal depression, but is quite as frequently due to trivial causes.*

THE BLOOD.—The vital fluid. "The Life."—As the living blood, circulates in the living body, it is made up of "*liquor sanguinis*," or the liquid of the blood, and of blood corpuscles or globules. The *liquor sanguinis* holds dissolved the animal principles, fibrine and albumen, and various mineral salts, and in it float the globules. When blood is drawn from the body, it separates, as most are aware, into a solid and a watery portion. The former consists of the fibrine, which thus solidifies out of the blood liquid, when withdrawn from the direct influence of vitality, and entangles the globules in the process; the latter, or serum—the same kind of fluid which is thrown out in a blister—still retains in solution the albumen and the salts, the former being easily coagulated like the white of egg, by heat. The blood corpuscles, or globules, are of two kinds, red, fig. A, which are much the most numerous, and white or colourless, fig. B. These bodies are of course very minute, the average diameter of the human red globule, being 3200th of an inch—of the colourless, a little more. The red globules of the blood are composed of a membrane which incloses the coloured fluid; under the microscope they have the appearance of flattened disks with a depression in the centre, fig. A. When fresh drawn from the body, they have a tendency to arrange themselves in connected rows. Blood circulates in the living body in the two very different forms of arterial and venous blood. In the former case, it flows in the arteries, is bright red, and conveys life-giving influence and nourishment to every portion of the frame; in the latter, it is black-looking, flows in the veins, and possesses properties destructive to life, until by the action of the liver, and more especially by exposure to the action of the atmosphere in the lungs, it becomes purified. The properties and composition of the blood in health, and the changes which these undergo in disease, have of late years received much attention, and many important discoveries bearing upon the nature and treatment of disease have been the result, but the greatest improvement as regards the blood, in the practice of medicine, is the much greater caution exercised in the abstraction of the vital fluid. Bleeding from the arm, which formerly was so generally resorted to, even as a periodical habit, is comparatively rarely practised. This is strikingly evident from the newspaper reports. Very few years ago, the addition to the accounts of accidents, of whatever kind, might have been stereotyped, that "a surgeon came and bled" the sufferer, and with it the too frequent addition of the "vital spark had fled;" and certainly, if anything could extinguish the spark of life flickering after the shock of a severe accident, it must have been the senseless, unmeaning custom of bleeding, when perhaps brandy and water or ammonia were required. The disappearance of such notices as above from the public prints, evince the improved practice; but even now, in the country, it is difficult to persuade people that they do not require bleeding after an accident, and all bad consequences are attributed to the omission of the mysterious agency of blood-letting. Blood, we are told, on the highest authority, is the "life," or at least the medium of life to the body, and it is we know the great feeder of every portion of the frame, and to feed, it must be fed, and every drop extracted unnecessarily, is money from the poor man's pocket; but worse still, if largely abstracted by design, or lost by accident, it frequently cannot be



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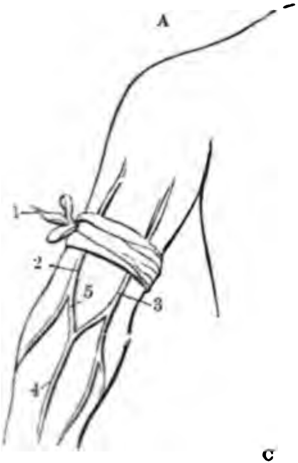
* **Blister.**—Refer to Bladder.

recovered, and the constitution receives a shock, and facility of yielding to disease, which it never gets the better of.

Blood-Letting.—But yet, in blood-letting, we have a powerful auxiliary in the treatment of some diseases, although one to be used with due caution; and the ability to perform the operation may be serviceable in remote or thinly-settled districts. Any man who has the idea of using the lancet, if required, should see the operation performed: one practical lesson, accompanied with a little kind explanation, is worth all description, although this may be useful as a reminder afterwards.

Bleeding with the lancet *may* be performed wherever a superficial vein can be detected. The large vein of the neck (the jugular) is not unfrequently opened by the surgeon, also the veins of the hand or foot; but the bend of the elbow is the most usual site of the operation. In this position, if regularly distributed, there should be a tolerably large vein—fig. A, 2, 3.—running up each side of the arm, and a central vein, 4, which, dividing into two branches, sends one to each of the vessels above-mentioned. It is the branch—fig. A, 5.—going to the outer vein which is usually opened in bleeding; the veins on the inner side of the arm are, as a rule, avoided by the surgeon, if blood in sufficient quantity can be procured from the more external branches. The reason of the selection, is the presence of the main artery of the arm close beneath the inner veins, and the possibility of its being wounded in the operation. A skilful bleeder may undoubtedly avoid so serious a mishap; but certainly no unprofessional person should run the risk, and, indeed, in whatever situation, and by whomsoever a vein is opened in the arm, it must always be ascertained beforehand, by pressing the finger down upon the part, that no artery is pulsating underneath.

A



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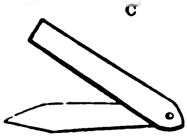
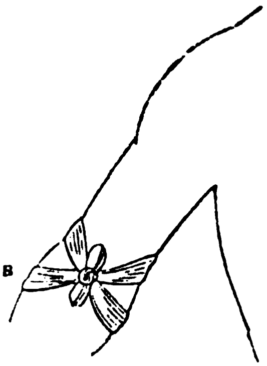


The first thing when the operation of bleeding from the arm is to be performed, is to have all things in readiness. These are, a bandage of some kind, or soft half handkerchief, a piece of linen folded six or eight times into a pad an inch and a-half square, a basin, or two or three cups, a stick to support the patient's arm if requisite, a towel, and a little cold water. The band is to be tied round the arm, with a bow knot, about two and a-half inches above the elbow—fig. A, 1.—with sufficient tightness to stop the flow of blood in the veins, but not in the artery, which may be ascertained by feeling the pulse at the wrist. The operator, whilst supporting the arm of the patient with the fingers of the left hand, presses upon the vein with the thumb a short distance below the intended opening, this pressure, serving to steady the vein under the incision of the lancet, and also, if the operator be alone, to prevent the free flow of blood until he has had time to lay down his lancet, and hold the basin. The lancet being held between the thumb and forefinger of the right hand, with its sides in the position represented—fig. C—and the hand being supported by the other fingers, the point of the instrument is to be made to pierce the vessel, and it is carried forward so as slightly to enlarge the opening, and then withdrawn. If the blood does not flow freely, the patient may be made to grasp a stick, or any solid body which will partly fill the hand. When it is desired to stop the flow of blood, the left thumb being placed upon the wound, the band is to be untied, the arm, if requisite, cleansed, the linen pad substituted for the thumb upon the wound, and secured by the band or handkerchief passed round the arm in the form of a figure of 8—fig. B. The arm ought to be kept at rest for some hours after the operation, and not used in *exertion* for some days.



Such is the operation of bleeding, not to be undertaken rashly, never by one who has not seen it performed; but yet one, which it is desirable that some one in a remote district should have the ability to perform. Again it is repeated, the lessons must in the first instance be practical, and then the few simple directions above given may afford timely aid to the memory. It must be kept in mind, that a person in the upright posture faints sooner from loss of blood than one who is lying down, and that when faintness does come on, a little cold water, and a perfectly flat position are the best restoratives.

The emergencies in which bleeding may be ventured upon by the unprofessional, will be noticed under their proper heads.

Local Blood-letting, Cupping, Leeching, Scarifying—see their respective articles.

BLEEDING.—See Hemorrhage.

BLOWS — may be serious either from the violence used in their infliction, or from the site of the injury. A blow on the head may cause merely bruising of the scalp—if more severe, concussion or injury to the brain, or fracture of the skull. The latter accident is most likely to happen at the side of the temple, where the bone is thin: but severe injury to the brain frequently occurs from blows at the under and back parts of the head. A severe blow on the spine may cause paralysis of the lower limbs, with or without fracturing the vertebræ. When a blow, even comparatively slight, is inflicted upon a spot immediately over a collection of nerves, most distressing effects, and sometimes immediate death may result; such is the case from blows on the neck, on the pit of the stomach, or over the region of the heart. The deadly faintness which ensues should instantly be combated by the first stimulant—ammonia, ether, or spirit of any kind—which can be procured. Cold water should be suddenly dashed over the surface, or down the spine; if this is unsuccessful, the patient is to be put into a warm bed, and artificial respiration employed along with external heat, mustard-plasters to the spine and pit of the stomach, and stimulant injections.

Refer to—*Brain—Bruises, &c.*

BLUE DISEASE.—Cyanosis.—A condition dating from birth, in which, from malformation of the heart, the blood is only partially arterialized in the lungs. Few subjects of the disease survive infancy, but there are instances of their attaining mature age. The disease is characterized by the purple appearance of parts which are usually red, by languor of all the functions, and by great susceptibility to cold. The disease must not be confounded with the leaden blue colour of the skin, brought on by long-continued internal use of nitrate of silver.

BLUE PILLS.—See Mercurials.

*BOIL.—A boil consists in local inflammation affecting the true skin, and subjacent cellular membrane. A whitish-looking point, in the conical centre, is surrounded by an inflamed hard base. A core or slough occupies the interior of the boil, and this must be discharged before there is relief to the often intense pain, and before a cure can be effected. The pain may, however, be soothed, and the natural process facilitated by the use of warm fomentations, simple, or made with poppy capsules, and poultices,† the latter being continued until the core is fully thrown out, after which simple water-dressing may be applied. Persons who are compelled to go about their occupations during the progress of a severe boil, will find a small piece of lint dipped in olive oil, and retained in its place by a disk of adhesive plaster, a very soothing and convenient application. Boils are apt to recur in succession, for the reason, probably, that they depend upon some derangement of the system which requires attention. If the person—and boils generally occur in the young—be of full habit, the diet should be reduced, all fat and rich things eschewed, meat partially or entirely given up for a time, and stimulants avoided. A blue pill and black draught, or one or two doses of calomel and compound rhubarb pill are to be taken, and regularly for some time every morning, a tea-spoonful of Epsom salt in half-a-pint of water. If the habit is delicate, a few five-grain doses of Plummer's pill may be given at bed-time, or the bowels regulated by the blue pill and compound rhubarb. The diet not reduced but regulated, and the general means of health attended to.[*]

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* Boil.—A succession of boils is very apt, in some constitutions, to follow the application of a blister.

† Some practitioners condemn the use of poultices in any stage of a boil, but the feeling of comfort conveyed by a well-made poultice is certainly a strong recommendation in itself.

Boils are popularly said to be "healthy," and in one sense they may be so; that is, if the deranged state of the system relieves itself by their eruption; but they are also to be regarded as warnings that some change in habits, or that medicine, is required. A series of neglected boils may wind up with a carbuncle Carbuncle is of the same nature as a boil, but more severe and dangerous.—See *Carbuncle.*

BOILING—is the process in cookery by which food is submitted to the action of water at the boiling point of 212° Fahr. Theoretically, this is the case, but in the cooking of meat especially, boiling, that is ebullition, should not be permitted. A temperature—according to Liebig—fifty or sixty degrees lower, being sufficient, if proper time be given to cook meat thoroughly, whilst it is rendered much more tender, and easier of digestion than when the process is carried more quickly, and by a greater degree of heat. In fact, meat to be properly cooked in this way, ought rather to be stewed than boiled. Somewhat, however, must depend upon the end in view in cooking the meat. If it is desired to be simply a piece of well-cooked meat, not only as regards taste, but as to nutritive powers, the method recommended by Liebig should be followed; that is, the water in which the meat is to be cooked should be made to boil briskly at the time the latter is put into it, and for a few minutes after, and then sufficient cold water is to be thrown into the pot to reduce the temperature of the whole to 160°, at about which point it should be maintained until the meat is thoroughly cooked, that is, till all appearance of redness has disappeared. The principle of the process is, that by the sudden immersion of the meat in *boiling* water, the most external of the constituents of the flesh, but more particularly the albumen, become quickly hardened and coagulated, so as to form a kind of case around the interior portions. Of course, if the high temperature is preserved, this process of hardening will go on throughout the whole mass, which is thus—and too often it is the case—made hard and indigestible. But in consequence of the reduction of temperature produced by the addition of cold water, this is prevented, the meat is cooked by a heat which cannot harden it, and its nutritive soluble principles are kept from exuding by the case-hardening of the first few minutes' boil. The reverse of the above must, in some degree, be the case, when meat is boiled for the sake of the soup: it must then be put into the water whilst it is cold, and the temperature gradually raised to near the boiling point. In this way there is no outer hardening to interfere with the water dissolving out the soluble nutrient principles of the whole mass; the latter, of course, losing proportionally. As meat cannot be cooked in water without a certain portion of its nutrient matters being dissolved out, the water *should never be thrown away;* if the saving is unimportant to those who cook the meat, there are plenty of poor to receive the unused liquor; but if it is a consideration that nothing be lost, then may the soup be turned to account by being consumed along with the meat. Of course the cooking may be so managed as to make both palatable.

Vegetables require thorough boiling, and often disagree for want of it.

Refer to—*Food.*

BOLUS.—A large, rather soft pill, which can be swallowed. This form of administering medicine is not at present much used.

BONE—is the component of the hard frame-work of the animal body, which supports and protects, and to which are attached the soft parts. Bone, in mass, is made up of mineral or earthy, and of animal matter, and both are so intimately united and diffused through one another, that either, the one by the action of heat, or the other by the aid of an acid, may be entirely removed, and yet the form of the bone maintained by the remaining constituent. The animal matter of bone is nearly pure gelatine, which may be, and is used as an article of food in various ways. The extraction by manufacturing process is complete; but for domestic purposes, much of the bone gelatine may be extracted by the use of Papin's digester. There is not, perhaps, as much real nutriment in gelatine as popularly imagined; but there is quite enough to make its extraction worth while, even domestically, as an addition to soups.

The bones of the body are divided into flat bones like those of the head, long bones as of the arm and thigh, and irregular bones, of which the vertebræ are examples. The outer case of a bone is always harder than the interior, and is covered by a firm investing membrane, the periosteum. Bones are liable to various diseases; one of these, caries, is to this tissue what ulceration is to the soft parts of the body; another, necrosis, is the actual death of the bone substance. In both these cases, there is generally deep-seated continued pain in the bone, followed by swelling and redness of the soft parts covering the affected spot; matter forms and is discharged, but healing does not take place, as after a common abscess; the discharge continues, it is thin, perhaps acrid, frequently fetid, and communicates a dark stain to the dressings. The opening in the skin, or rather openings, for there are usually more than one, may be small, or there may be diffused ulcerations of the integument. These diseases —unless from situation, as in the head— are not rapidly fatal, but if unremedied, wear out the patient, by long-continued irritation. The suspicion of their existence should be the signal for placing the sufferer under proper medical advice without delay. Too often they are trifled with, and one quack ointment after another—each professing more than its neighbour—is had recourse to, whilst the constitution of the patient suffers irretrievably. Bones may become softened in consequence of a deficiency of earthy matter. In adults, this is the result of defective constitution, insufficient nourishment, and unhealthy dwellings, and is a fatal disease. In children, the disease named rickets, in which the bones likewise become soft and capable of bending, is the result of similar causes; but in the latter, good diet, change of situation, and a course of tonic remedies will effect a cure.

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[*] In constitutions which shew evident signs of debility, it may be advisable to increase the amount of animal food taken, and to allow good wine in moderation. When the bowels are clear, and the tongue tolerably clean, but the boils still continue to appear, dilute Nitro-Hydrochloric Acid (Pharmacopœia Brit.) should be given in doses of twenty minims in a wine-glassful of water thrice daily, or in a wine-glassful of infusion of bark. In some cases steel is required. A grain of quinine may be taken with each dose of the mineral acid, instead of bark.

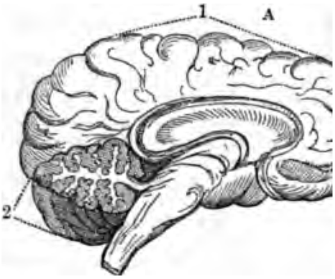
Refer to — *Rickets* — *Fractures* —*Papin's Digester.*

***BORAX**.—is a compound of boracic and soda. It is well known, and used domestically in cases of sore mouth; but its good effects, especially in thrush, are often nullified by its admixture with honey, or saccharine matters. As a general rule, borax is most advantageously used in the form of lotion, a drachm and a half, in half-a-pint of water, being a convenient strength. In mercurial salivation this wash for the mouth is very serviceable.

BOUGIE.—A surgical instrument used for the dilatation of the male urethra.

BOWELS.—The tract of the alimentary canal contained within the abdomen.—See *Alimentary Canal.*

BRAIN.—The brain is the large mass of nervous matter contained within the cranium or skull case. By anatomists, and in medical science, the organ is variously divided and subdivided, but more especially into the cerebrum, or large brain—fig. A, 1. —and the cerebellum, or little brain—fig. A, 2.—the latter being situated at the inferior and posterior part of the cavity within the head. The nervous matter is partly white and opaque; partly greyish, and semi-transparent. The whole organ is supported



and enveloped by three membrane
is defended from all ordinary inju
the arched bones of the head.

Concussion of the Brain.—One
most frequent injuries to which the
is exposed, is concussion. Either in
quence of a fall or a blow, a person be
stunned; the effect may be but mome
there is transient unconsciousness, a
individual "comes to himself," w
further symptom; but if the conc
be severe, the state of unconsciousne
tinues, the power of motion is alm
entirely lost, the breathing is slo
quiet, the pupils frequently contracte
sometimes dilated, and very generally
is vomiting; the pulse is small and
This condition may continue for a
or shorter period, according to the vi
of the shock, and may terminate in
but if it be simple concussion, there is
rally a restoration of the usual condi
health, permanent or otherwise. I
cases of simple concussion of the bra
little active interference is required; t
tient should, if possible, be put in be
the warmth of the surface, particula
the feet, attended to; if there is e
depression, a little sal volatile or b
and water *may* be given, *but sparing*
account of the subsequent reaction.
chief danger to be apprehended afte
cussion of the brain, is inflammation
ing either the organ itself or its co
membranes, and on this account the s
from the accident ought to be extra
for at least ten days or a fortnight aft
receipt of the injury. All alcoholic
lant is to be avoided, and rest both o
and mind submitted to; the bowels
kept relaxed by the use of gentle ape
If the immediate reaction is great, t
if a few hours after the accident, th
much pain in the head, shivering, fo
by heat, quickened pulse, sickness, t

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* **Borax**.—Half an ounce of Tincture of Myrrh is a good addition to the half pint borax was

demands the most serious attention, and should be seen by a medical man as soon as possible. In such a case as this occurring —and they frequently do occur—at a distance from medical aid, an unprofessional person who could bleed would be quite justified in abstracting from a man of full habit, from twelve to twenty ounces of blood, and in applying a dozen or a dozen and a half of leeches about the head, either with or without the general blood-letting; or eight or ten ounces of blood might be taken from the nape of the neck by cupping. The hair must be cut or shaved off, and the head kept cool with cold or iced applications; the most perfect quiet, in a dark situation, observed, and active purging with calomel and colocynth, jalap and calomel, or the most active aperient at hand. The diet is to be reduced to the very lowest ebb. Such cases are generally so urgent, and their cause and nature so palpable, that they not only require the most active treatment, but also render that treatment justifiable in the hands of the unprofessional, in the absence of, or during a lengthened interval of the non-arrival of medical assistance. Symptoms, similar to those detailed above, though not directly referable to reaction, may, coming on some days after a concussion of the brain, indicate the commencement of inflammatory action. In such a case, bleeding must be more cautiously resorted to, but the other measures should be carried out. It ought to be known, that direct violence to the head is not always requisite to produce concussion; a heavy fall on the feet may equally cause it, by the shock conveyed through the spine to the brain. But violence may go beyond the production of mere concussion—there may be rupture of the substance of tne brain, or of a single vessel, causing effusion of blood. In such a case, the individual may never rally from the first condition of unconsciousness, or he may rally only partially, to sink again as reaction comes on into a state of apoplectic stupor, or become the subject of those symptoms of inflammation of the brain already described; in which case, of course, the same treatment is to be pursued. If the case runs on to a fatal termination, there is generally apoplectic stupor, paralysis, convulsions, one or all of them.

Fracture of the Skull. — Violence applied either directly to the head, or communicated to the skull through the spine, may be sufficient to fracture the bone with or without breaking the skin. The accident is sometimes sufficiently obvious even to the inexperienced, at other times, as in the case of a simple crack, it is not detectible even by the most skilful; but whether plainly apparent, or only suspected, the existence of fracture amounts to the same thing, as far as the unprofessional are concerned, as concussion; the case ought to be seen as soon as possible by a surgeon. The symptoms will in many respects resemble those of and following concussion, and may be similarly treated; if there is external wound as well as fracture, simple water dressing should be used. When a portion of bone is driven down upon the brain by external violence, it occasions apoplectic insensibility by the pressure it produces; in such cases, the aid of the surgeon is imperatively called for, to relieve, by elevating the depressed bone.

The brain, or its investing membranes, are liable to become inflamed. Shivering, followed by hot skin, thirst, furred tongue, intense pain in the head, intolerance of light, the eyes being blood-shot and wild-looking, sickness, and delirium, are the most general symptoms; at other times, a severe attack of convulsions ushers in the disease, or continued and obstinate vomiting may be the first symptom of the brain being affected, the more direct symptoms referable to the head coming on later. However it may be, such cases can only have proper energetic treatment in the hands of the practitioner; but until his assistance can be procured, the plan of treatment recommended to be followed in cases of inflammation after violence is to be adopted—particularly cold to the head, *thoroughly* applied.[*]

Inflammation of the brain may arise from a variety of causes; violence is one of the most common; it may arise in the course of acute disease, or after the suppression of an accustomed discharge; it is not uncommonly set up in cases where there has been long continued discharge from the ear.[†]

In children, particularly those of scrofulous constitution, inflammation of the brain at its conclusions frequently takes the form of what is popularly termed—

Water in the Head, or water on the brain. The fatality of this disease when it has once established itself in the constitution, renders a knowledge of its earlier symptoms a matter of serious and important interest to every parent. As mentioned above, children of scrofulous constitution are most liable to this disease, and should be closely watched, especially from the second to the sixth or seventh year of life, the most general period of attack, and particularly after the child has suffered from any of the diseases incidental to childhood. At first, the patient is languid, looks heavy, is subject to irregular heats and chills; the appetite is capricious, the bowels irregular, and the discharges from them unnatural in colour; the sleep is disturbed, there is frequent starting, moaning, perhaps screaming; the teeth are grated, the thumbs folded across the palm of the hand; when awake, the brow is contracted; the nose is continually picked; the child, if able to speak, complains of the head, which is hot. As the disease advances beyond the first stage, all these symptoms become more marked, and probably obstinate vomiting, and when the stomach is empty, retching, occur. Towards the termination of the disease, insensibility, dilated pupils, convulsions, &c. come on; but long before the latter stages, the case should be under proper medical treatment. The object here is to put the parents on their guard as to the advances of an insidious and very fatal malady, not to induce them to incur the responsibility, and unless under very extreme circumstances indeed, the culpable responsibility, of its treatment. Many of the symptoms above detailed undoubtedly occur, in less alarming combination, in many of the diseases of children; but come as they may, and when they may, they should not be neglected. Some amount of treatment ought however to be employed to save time, and the most important and safest indication, is to purge the child well with calomel and scammony[*] the head is to be kept cold, and quiet strictly to be observed. One or two leeches may be applied. The term "water in the head," as regards the disease above treated of, is erroneous; the effusion of water which takes place is but one of the stages of the affection, which is truly inflammation of the brain and its coverings. The causes are numerous, but sometimes the disease arises without any being distinctly traceable; the irritation of teething, long-continued disorder of the digestive organs, falls or blows on the head, exposure of the child's head to the heat of the sun, infantile febrile disorders, may any of them give the first impetus to the diseased tendencies. Most important, as undoubtedly it is, to detect the first symptoms of threatened inflammation of the brain in children, still more so is it to detect and improve that state of constitution which facilitates the incursion of that and so many other disorders. If a child is scrofulous, or has a tendency to scrofulous constitution, let not parents foolishly shut their eyes to the fact, but rather endeavour as far as possible to correct the misfortune; more especially, let them beware, lest they in any way foster into activity the seeds of so deadly a malady as acute water in the head. Those children who are most obnoxious to its attack, are often the most endowed intellectually; there is a morbid tendency to excitement in the brain, which gives it power beyond what is natural to its age; if permitted or encouraged, the child will give up the sports and exercise of its time of life, for the sake of mental employment, and sometimes a parent's pride permits the erroneous system, which in all probability, leads either to early death from active disease of the brain, or to the possession in after life of a sickly body, and morbid mind. In no children is it so necessary to insist upon strict observance of all the laws of *physical* health, as in those who exhibit precocious development of mind.

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[*] There are now manufactured by Mr Hooper, of Pall Mall, and others, ice and cold water bags, which are eminently calculated for the efficient application of cold to the head.

[†] When a child shews sudden, and not to be accounted for, head symptoms, there is often reason to suspect some violence, such as a fall, or, as sometimes occurs, a knock against a door or piece of furniture in the nursery, while the child is in the nurse's arms. This is a point which it is well to enquire into.

Water in the head, properly so called, is a chronic disease, dating from birth or very early infancy. The effusion of water advances by slow degrees, distending more and more the brain and the bones of the head, until the latter attains an enormous size. It has been measured as much as forty-four inches in circumference. The disease may last for years.

BRAIN IN OLD AGE.—In the aged the brain becomes more liable to disease than heretofore. Congestion of blood from various causes, more especially in consequence of disease of the heart, is frequent, but quite as often, headache, giddiness, slowness of intellect, or paralysis, arise from deficiency of blood in the brain. The distinction is important, as in the latter case lowering measures are certain to be followed by an aggravation of the disorder. Softening of the brain, so frequent a disease of advanced life, has many symptoms similar to those consequent upon deficiency of blood, but in an aggravated degree; the mental functions are more regularly and permanently impaired, paralysis is more certain. Although cerebral softening is incurable, if its threatenings are early detected, it may be retarded by the use of tonics and abundant nutriment. The arteries of the aged brain lose their elasticity, become brittle and liable to rupture if unduly distended, a fact which renders all excitements, whether of the passions or otherwise, so dangerous to those advanced in life. The other affections of the brain, such as apoplexy, paralysis, delirium tremens, will be found under their respective heads.

BRAN is the broken-up testa or skin of the grain of wheat, which is separated from the flour after grinding. When heated, it is one of the most useful adjuncts we possess in the alleviation of disease and pain, and particularly in a domestic point of view. It is generally to be procured, is soon made hot, and retains the heat well; it is at the same time soft and adaptable.

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[*] One grain of calomel to two grains of scammony powder is a very efficient dose for a child of two years age in such a case, and it may be repeated every eight, twelve, or twenty-four hours, according to its ect, which should be two or three purged motions in the twenty-four hours—See Scammony.

Heated bran is best applied in a flannel-bag, which should be made ample in size, compared with the part affected; it may be either a dry or a moist application, but the latter is in most cases preferable. The best method of heating, is in the frying pan, sprinkling with hot water during the process, so as to give just perceptible moisture, and turning over and over until the substance is thoroughly hot throughout, it is to be quickly transferred to the bag, and the latter fastened by pins or thread. When moist, if covered after it is applied to the skin, by a piece of oiled silk, oiled calico, or any other waterproof material, the heat will not only be better retained, but the vapour also, and no dampness will be communicated to the clothes. Sometimes, the bran is put into the bag dry, and the bag and all dipped into boiling water, but in this way too much moisture is absorbed.

Dry, hot bran may produce perspiration, but frequently it causes only feverish dry heat, and if it does not do harm, does little good, compared with the soothing heat and vapour of the moist preparation, which is in fact a continued local vapour-bath, causing free perspiration from the skin over the affected part, and often relieving to an extent sufficient to render the use of leeches or cupping—which would otherwise have been required—uncalled for.

In severe pain, whether spasmodic or inflammatory, the bag of *hot* moist bran efficiently used, is one of the best, softest, and most certain alleviators we possess; and, greater advantage than all, may be used in most cases of pain with the most perfect safety. In many acute inflammatory affections, such as those of the chest or abdomen, its use is very often preferable, both as regards the comfort and real good of the patient, to either blister or mustard plaster. In the inflammatory affections of childhood, and in threatened croup, it is invaluable from its easy application, soothing, and at the same time, most beneficial effect. When weight is an objection, of course the bag must be more lightly filled. The bran may be heated in a dry state, and the effects of moisture procured by laying underneath it a double fold of flannel wrung out of hot water. Again it is repeated; the hot bran bag to be efficient, must be sufficiently ample and well-filled to retain the heat so long that frequent changing is not required. It must be thoroughly hot, slightly moist, but *not wet*, and is better covered after it is put to the part by some material which will prevent evaporation.

For the dietetic uses of bran—see *Bread*.

BRANDY—is procured by distillation from grape wines, and, according to Dr. Paris, owes its peculiar flavour to the presence of an etherial spirit formed by the action of the acetic or tartaric acid on the alcohol.

Brandy, like every other ardent spirit, ought not to be freely or regularly used, either diluted or otherwise. As an addition to our stimulant medicines, and as a dietetic, it is most valuable. As a medicine, it does not, perhaps, possess any particular advantage over pure spirit of any kind; but in England, at least, it is preferred by most to either whisky or gin, and it is generally the first procurable stimulant in most cases. As a dietetic, dyspeptics, and the aged, who require stimulant, and yet cannot take it in other forms, can often use regularly and with the greatest benefit a measured quantity of brandy in a little cold water, with their meals, once, or twice a-day, and certainly without any of that subsequent depression, or craving for an increase of the dose, which is by some said to be the consequence of the habit.

BRANKS.—The Scotch name for the mumps.

BREAD.—The term as usually applied in this country, means the leavened, raised, or fermented loaf of wheaten flour, but may also be appropriate to any of the other forms in which flour or meal is made up, either from wheat or the other bread corns. The flour of wheat consists of three ingredients; the gluten which approaches animal matter in composition, starch, and mucilage. Wheat flour, simply made into a cake with water, and baked, like the "damper" of Australia, will undoubtedly yield nourishment equally as well as leavened bread, to those whose digestion is equal to the task; but for the general purposes of civilized life, leavened bread is much to be preferred for the greater ease with which it is dissolved in the stomach. "The careful mixture with the saliva during the mastication of bread, is a condition essential to the rapid digestion of the starch. Hence the increase of digestibility obtained in bread by the porous form given to it. This porosity and lightness is produced in the dough by a process of fermentation. Beer-yeast is added to the dough, which brings into fermentation the sugar formed by the action of the gluten on the starch; and the open porous texture of the mass is the result of the carbonic acid thus formed in every part of it. Many chemists are of opinion that the flour by the fermentation in the dough, loses somewhat of its nutritious constituents, from a decomposition of the gluten; and it has been proposed to render the dough porous without fermentation, by means of substances, which, when brought into contact yield carbonic acid." Baron Liebig, from whose "Letters" the above extract is taken, says "this view appears to have little foundation."

[*]Various kinds of "digestive bread," raised without fermentation, are however now used. Carbonate of ammonia has been employed for this purpose; but carbonate of soda, with the addition of some acid—butter-milk will do—to disengage the carbonic acid, is the most general agent. The following method is a good one:—Two drachms of carbonate of soda in fine powder, are to be *well* mixed with a pound and a-half of flour; to rather less than a pint of water, there is to be added two and a-half drachms of muriatic acid, and the water and acid together are to be added to and mixed up with the flour. A rather liquid dough, which must be *baked immediately*, is formed, and if properly managed, is well and lightly raised by the disengagement of the carbonic acid from the soda, the latter being at the same time converted into common salt by union with the muriatic acid. These various kinds of unfermented bread have been extolled as particularly digestible, it is a question whether they are more so than the ordinary bread which has undergone fermentation. To be thoroughly wholesome, bread must be well raised, well baked, and at least twenty-four hours old before it is used. The finer descriptions of bread made with fine flour, are apt to constipate, and the coarser, which contains much coarse bran, are too irritating for many stomachs. As bread is at present made in this country, that made with seconds flour is quite the most generally wholesome. It is a matter of much importance as regards the nutritive properties of bread, "the staff of life," in what manner the flour from which it is made, is prepared. Generally, in consequence of the very large separation of bran effected in grinding, in this country at least, a great proportion of the real nutriment is abstracted, and the fine flour which remains has much too large a preponderance of starch, which does not afford real nutriment. This fact was well exemplified by the experiment of Magendie, who fed two dogs on wheaten bread exclusively, but to one he gave that made of fine flour, deprived of bran, to the other the coarse brown bread made of bran and flour together. The former died in forty days, whilst the latter was perfectly healthy, at the end of the period. The first dog was in fact starved, in the same way that he would have been if fed upon arrow-root, or sugar alone, the experiment indicates very significantly ho much real nutriment is lost by the copiou separation of the bran in preparing fin flour. It is not necessary for bran to b coarse, by more thoroughly grinding it int the flour, not only would bread made fror the flour be much more nutritious an wholesome, but the actual amount of brea food supplied to the people, would be considerably increased. Moreover, the mechanical aperient action of the bran upon th bowels, could not fail to be useful in country where constipation is so general disorder, as it is in this. No one who i liable to habitual constipation should regularly consume fine bread.

In times of scarcity, bread is liable t adulteration with flour from potatos, beans or with rice, and other cheap grains. S far as the health of the consumer is concerned, such adulterations cannot be ver injurious; and the deleterious additions t flour, of plaster-of-Paris, chalk, &c., ar now scarcely ever heard of. During time of plenty—like the present—almost th only adulteration of bread, and that chiefl of the lighter and finer kinds, is with alum indeed, the "*Lancet* Sanitary Commission" recently found this to be the onl adulteration practised at the present time b those bakers whose bread they examined The addition cannot be looked upon a harmless, if for no other reason than th constipating effects it must exert upon th consumers. A certain proportion of brea should form an addition to every meal with those whose digestion is at all weak. It must not be new; fatal accidents hav occurred from the distension of the stomac by an excessive meal of newly-baked bread. Sour bread is, of course, most unwholesome. A great mistake is often made i feeding young infants upon bread in variou forms; it always occasions disorder, griping, and flatulence. If circumstance render it necessary that bread must b given, it should, at all events, be slowl toasted, or re-baked as hard as a biscuit o rusk throughout, and then well soaked.

Biscuits, though not raised, are rendere more digestible by the double baking fro which they derive their name.

Refer to—*Grain*, *Flour*, *&c.* *&c.*

BREAKFAST—the first morning meal, is to the strong and healthy a most enjoyable one, and it may always be taken a one of the best signs of health when a ma can eat and *digest* a good breakfast, especially after exercise. The circumstanc that the strong and healthy can enjoy wit impunity a full breakfast, has given a erroneous idea as to the advisability o invalids making it a hearty meal, and still worse, of prefacing it by exercise. With very many, perhaps the majority of people in this country, especially in towns, the interval between rising and breakfast is not one of great vigour; the powers both of body and mind are undoubtedly recruited if there has been due rest, but they are not in full action, and if, injudiciously, too long an interval is permitted to elapse before food is taken, they become exhausted, and still more so if physical exertion is engaged in. Instead, as is too frequently supposed, the exertion improving the digestive power, it weakens it; appetite there may be, but digestion will, in a weak individual, be sadly deficient; the nervous power, which should aid the process has been used up. The very same deficiency of nervous power renders a full breakfast, under any circumstances, inadmissible for those of weak digestion; instead of giving strength, it causes discomfort and inaptitude for business for the first hours of the forenoon. Thus it is, why it speaks well for the health and constitution of the individual who can make the first meal of the morning a hearty one.

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[*] BREAD, AERATED; also Bread generally.—See Appendix. A "Baking Powder" is now made for th purpose, answers perfectly well, and is wholesome.

It would, perhaps, be difficult to find a social custom more suited to the present state of civilized life, than the warm tea, coffee, or cocoa breakfast, taken along with bread, and if it agrees, with the addition of meat, fish, or egg; it just affords the gentle stimulation which the system requires. The amount and nature of the nourishment taken at breakfast must vary, of course, with the habits and powers of the individual; if digestion is weak, it is better to be content with little, and wait for an early luncheon. Some dyspeptics can scarcely take any kind of food at the morning meal without its disagreeing; such will sometimes find it of advantage, when it can be done, to have a *small* cup of hot coffee, or of some warm fluid, brought to them just before rising; with others, a very slight supper, just before going to bed, a biscuit or piece of toast, with a little wine and water, will relieve the weakness in the morning. Above all, it should be kept in mind by those with whom breakfast is apt to disagree, that exhaustion of any kind before the meal, such as walking, gardening, bathing, or even cold sponging, are almost certainly injurious. As a breakfast for children, bread and milk is better than the stimulants, tea and coffee; for strong children, nothing is better than oatmeal porridge, as used in Scotland and northern England.

Refer to—*Digestion—Bathing.*

BREAST.—The term, as here used, is applied to the female breast, the organ peculiarly devoted to the nourishment of offspring. The essential component of the breast is the "mammary" gland, which secretes the milk. This gland, along with the breast generally, becomes fully developed, and fitted for its functions, as womanhood advances; and at the same time, the nipple enlarges, if it is permitted to do so by the stays, which too often offer such impediment to its development as to entail much suffering when women come to be mothers. Too frequently, when the nipple ought to be fit for the suckling of the child, it is found so flattened into the breast that it is nearly impossible, sometimes quite so, to get it drawn out sufficiently; much suffering, and not unfrequently abscess in the breast is the consequence.

Females are often morbidly sensitive respecting any ailment affecting the breast, and render themselves unnecessarily miserable if they detect, or fancy they can, anything unusual. Sympathetic pains are put down as the certain precursors of some dreaded disease; or the slightest hardness is observed and fingered, till it really becomes tender and inflamed, and in consequence enlarged. In such cases, if the patient is reasonable, and can be persuaded to give up the habitual interference with the ailment, the uneasy symptoms and suspected "lump" will often disappear together. Still, they may not do so, at least quickly, but that is no reason why the affection is necessarily a serious one; quite the best plan in these cases, is to take professional advice without delay; if the cause of alarm is unimportant, the mind is set at rest; should it be otherwise, its nature cannot be too soon detected. Above all things, tampering with such matters must be avoided; the rubbings, &c., too often employed, may irritate a slight swelling into rapid and painful increase, or something worse.

If the above advice is followed, as it ought to be, it is unnecessary in a work like this, to treat of that dreaded disease, cancer of the breast; a suspected case ought neither to be left to unprofessional opinion nor domestic treatment, and to detail the incipient symptoms which are many of them common to more harmless affections, might only tend to excite groundless fears. When cancer has reached the confirmed open stage, opiates and narcotics are the chief sources of physical comfort; hemlock poultices will sometimes relieve pain, and a chlorine lotion will in some measure neutralize the fetor. The disease generally occurs after the age of forty.*

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* Breast, Cancer of.—The author was informed by a patient that she had found considerable relief from a poultice made of figs boiled in milk. Small light bags, filled with fine charcoal, and laid upon the breast, will do much to prevent any fetor being perceptible—Refer to Carbon.

Inflammation and Abscess.—The disease from which the female breast most frequently suffers, is inflammation, followed by abscess. This may occur at any time, but most commonly it is within the first few weeks after childbirth. Generally within twenty-four hours after the birth of a child, the breasts become turgid, and slightly hot, from the increased flow of blood which is directed towards them to supply the secretion of milk; in this excited condition, and indeed during suckling generally, they are peculiarly liable to become inflamed; cold, any slight bruise, such as that from a bone in the stays, over-distention with milk, or even mental excitement, may, any of them, give rise to the inflammation which ends in abscess. All these causes, and any others likely to injure, must therefore be most carefully avoided, and particularly the accumulation of milk; the breasts should be well emptied. If from flatness of the nipple, weakness of the child, or any other cause, the milk is not well drawn out, measures which will relieve, must be adopted. Various forms of breast-pumps are used, the suction being made either mechanically, or by the mouth—by their means; a leech-glass is tolerably convenient; or a wide-mouthed bottle, capable of holding a couple of quarts, may be employed, being first dipped into hot water to exhaust the air, and then applied to the breast, the suction exerted as it cools will cause the milk to flow freely. Some nurses have the art of drawing the breasts with the mouth, more thoroughly than any instrument, and when such aid can be procured, it is right to make use of it. The first symptoms of threatened abscess, are pain and knotty hardness in the part; if the process goes on unchecked, there is much throbbing and sensation of weight, the skin over the part affected becomes red, gradually thins, and at last gives way, allowing the escape of the matter, occasionally mixed with milk. Some amount of irritative fever accompanies the progress of the affection. After the discharge of the matter, the abscess may quickly heal, or it may remain open, and running, for a considerable time.

The first few hours of threatened mammary abscess are the most valuable; if it is to be prevented, it must be then. The breasts being well emptied, gentle friction, continued for ten minutes at a time, and repeated every four or five hours, must be most assiduously employed. A soft palm is indispensable for the process, and fresh olive or almond oil is the best for rendering the friction easy; the various applications, such as goose fat, &c., &c., often recommended and used, are disagreeable, and not better than the simple oil, the mechanical friction being the active agent for good. During the intervals between the friction, the best application is lint soaked in tepid water, and covered with oiled silk. The bowels should be kept clear: ten grains of Plummer's pill may be given, and followed in four hours by castor-oil, and from six to ten grains of carbonate of potash, with the same quantity of nitrate of potash, are to be given every five or six hours in a wine glassful of water. The diet light and cooling. Leeching the breast in cases of threatened abscess is useless, and tepid moisture is better than much heat. It is of much importance to support the breast, and it is sometimes found beneficial to exert pressure by strapping with plaster, or, as lately practised, by means of collodion applied all over, which as it dries, contracts and produces an equable compression. When from the throbbing character of the pain, or from the tension and inflammation of the skin, there is reason to suspect that matter has formed, the treatment must be changed: hot fomentations and poultices are to be regularly applied, the distressing weight of the whole breast being relieved by slinging with a handkerchief round the neck. The bowels are to be kept open, not purged, the pain and restlessness relieved by an opiate at night, cooling drinks allowed, and the diet light but nourishing. In certain stages, and under certain conditions, it is the practice of medical men to open breast or milk abscess with the lancet; for the unprofessional the safest course is to permit it to discharge itself. The hot poultices ought to be continued for a few days after the evacuation of the matter, and then exchanged for simple water-dressing.

After the discharge of the abscess, a more nourishing diet is to be allowed, and wine or malt liquor may probably be required. If there is much debility, a wine-glassful of infusion of bark, with thirty minims of sal volatile, or a grain of quinine in a glass of sherry may be taken twice a-day. If the system is relaxed, and tendency to perspiration exists, twenty minims of diluted nitric acid should be substituted for the sal volatile in the bark infusion. As long as mammary abscess is merely threatened, the child ought to be allowed to suck, but from the time of matter having formed, till its discharge, it must be kept from the affected breast.

If hardness remains after the breast is healed, friction may be used with soap liniment, either simply, or with the addition of a drachm of compound tincture of iodine to each ounce. Refer to—*Nipple, &c. &c.*

Breast, Inflammation and Abscess.—Even when milk or breast abscess has considerably advanced, it may often be checked by the use of Extract of Belladonna tolerably thickly smeared over the swollen and inflamed part, the extract being, in the first place, softened by the addition of an eighth part of water. If the application is used near the nipple, care must be taken that it does not come near the infant's mouth—a piece of linen is of course placed over the breast. Another application is a poultice of Fuller's earth made with boiling water—See Belladonna.

Breast—See Child-birth.

The breasts of infants a few days after birth, are liable to become distended with a thick milky-looking fluid, which some nurses barbarously squeeze out. This should never be practised; bathing with warm water, and the use of cold cream, or some simple ointment, is all that is requisite.

Youths, about puberty, occasionally suffer from a hard, slightly painful swelling around the nipple, which sometimes creates alarm. It is of no moment, and requires no treatment beyond warm fomentation, if painful.

BREATH AND BREATHING.—Breath is the mixture of gas and watery vapour exhaled from the lungs at each expiration. Its indications are often valuable guides in the treatment of sickness. In febrile diseases the breathing becomes quickened, and when the lungs are affected, more especially so. In affections of the head or of the nervous system, it is often slow, and very gentle, sometimes irregular, or it may be laboured—"stertorous." The position which a person suffering from disease, particularly of the chest, instinctively assumes, as that in which he can most easily breathe, is always to be observed.

The odour of the breath is a good index of the state of the body. When tainted, it is so, not uncommonly, from decayed teeth, or from a morbid secretion of the tonsils; but more frequently, in children especially, it is indicative of disordered stomach, and of loaded bowels. The cause of the symptom should always be inquired into, and as far as possible remedied. A brisk purgative may be all that is required. Disease of the lungs is sometimes accompanied with intolerably fetid breath.[*]

Refer to—*Æration—Lung—Respiration.*

BRIGHT'S DISEASE, is an affection of the kidneys, first described by Dr. Bright. Its most peculiar symptom is the presence of the serum of the blood in the urine, so that when the latter fluid is heated to near boiling, the albumen becomes coagulated like the white of an egg, causing a cloudiness merely if in small proportion, but sometimes existing in such quantity as to form a nearly solid mass. This condition of the urine is always to be looked upon seriously. It sometimes comes on slowly, more particularly in those addicted to the excessive use of ardent spirits; or it may be the immediate consequence of severe cold and repressed perspiration; it is not an unfrequent sequel to scarlet fever. The sudden development of this condition of urine, is accompanied with feverish symptoms, and dropsical swelling of the face, with stiffness of the eyelids, swelling of the extremities, and if it proceed far, of the trunk of the body also. It ought at once to be submitted to the treatment of a medical man. In the absence of this assistance, should sudden swelling, as above described, come on, and with it symptoms of general fever, a portion of the urine may be heated in a metal spoon to boiling; if it becomes thick or cloudy, and if it is not cleared by the addition of a few drops of vinegar, it may safely be concluded that the kidneys are suffering. From six to ten ounces of blood, according to habit, may be taken from the loins by cupping, the patient confined to bed, and a bath of the temperature of 90° taken for half an hour, once in twenty-four hours. A diaphoretic mixture—such as that of acetate of ammonia—is to be given, and the bowels purged with calomel and compound powder of jalap, or some other brisk purgative. The diet must be kept low as long as fever continues. The case ought not to be trusted to domestic treatment further than is unavoidable.[†]

Refer to—*Scarlet fever.*

BRIGHTON.—According to Sir James Clark, the air of Brighton is "dry, elastic, and bracing," and the climate "appears to the greatest advantage in the autumn and early part of the winter. Accordingly, in all cases in which a dry and mild air proves beneficial, Brighton, during this period of the year, deserves a preference over every other part of the south coast. In the spring, on the other hand, the climate is cold, harsh, and irritating to delicate constitutions.

"For convalescents, and all persons who require bracing, and in whose cases sea-air is suitable, Brighton presents one of the most favourable climates which can be selected. For children and young persons generally it forms an excellent residence."

BOURNEMOUTH,—on the coast of Hampshire, is said by Sir James Clark to "deserve a place among our best climates, and for a certain class of invalids, capable of taking exercise in the open air, to afford a very favourable winter residence."[‡]

BRITISH CHOLERA.—See Biliary Disorder.

BROCOLI—belongs to the cabbage tribe, the portion eaten being the undeveloped flower buds. When well boiled, it is one of our lightest and most wholesome vegetables.

BROILING—is, perhaps, the most primitive method of cooking; the savage puts his piece of flesh or his fish upon the burning coals and broils it. In civilized life, the gridiron is made the medium for the process. The principle involved in broiling is, that by sudden exposure to the fire, the outer portions of the meat are so hardened that they retain the juices of the inner, during the process of cooking. This is still more fully effected, by brushing over the surface of the meat with white of egg before putting on the fire. Broiling is not so well adapted for weak stomachs as either roasting or boiling; but meat cooked in this way is very nutritious.

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[*] Breath.—Some persons suffer habitually from tainted breath, and many remedies have been proposed—See Appendix.

[†] Bright's Disease.—Cases which occur temporarily after scarlet fever cannot be considered as truly cases of Bright's disease, unless the affection becomes permanent. In their incipient stage, the vapour bath, as recommended in page 46, is very useful.

[‡] Bournemouth.—For further information—See Appendix—Health Resorts.

BROKEN BONES—See Fractures.

BRONCHITIS—is inflammation of the membrane lining the air-tubes or bronchi. In its subacute and chronic forms, it is one of the most common diseases of the climate of Britain; prevailing at all seasons, but especially in spring. It may be either acute, subacute, or chronic, and varies according to age. Acute bronchitis may commence directly in the chest after exposure to cold; but very often, particularly in children, the lining membranes of the eyelids, nostrils, and throat are first affected, and the disease spreads downwards into the air-passages of the chest. In the latter case, watering of the eyes, &c., precedes the actual bronchitic attack for a day or two. Acute bronchitis, as it occurs in the adult, is a severe disease, requiring the most prompt medical attendance; it is generally the result of exposure to cold in some way, but may be caused by irritant vapours. In it the fever is high, the breathing extremely oppressed, the cough frequent, and expectoration at first difficult. The disease terminates, either with the subsidence of these symptoms, the breathing and expectoration in particular, becoming easy; or respiration becomes more and more oppressed and difficult, the mucus which ought to be expectorated, accumulates in the bronchial tubes, and the blood being unchanged, the lips and surface generally become blue and cold; delirium preceding death. The rapid progress which this disease sometimes makes, from its commencement to a fatal termination, renders the sending for medical assistance as quickly as possible, an imperative duty; but the same reason renders it important that those around should be aware of the best method of treatment. Confinement to bed is a matter of course; but foot-baths, hot bran poultices to the chest, and warm diluent drinks, are all serviceable. In a person of full habit, from eight to twelve leeches may be applied to the chest, or five or six ounces of blood taken from between the shoulders by cupping; but the chief dependence is to be placed upon nauseant medicines, and ipecacuanha is the best and safest. Four grains should be given in a little water every twenty minutes, till free vomiting is produced; and this repeated every two or three hours. About an hour after the first vomiting, four grains of calomel are to be given, and if the disease continues severe, repeated in six or eight hours. In the event of symptoms of collapse, or sinking coming on before the arrival of medical assistance, it will be necessary to stop the nauseating treatment, and to give stimulants, such as five grains of carbonate of ammonia, in three table-spoonfuls of water, every half-hour or hour; or a tea-spoonful of sal volatile may be given instead, in the same quantity of water, and at the same intervals. If these stimuli are not to be procured, the most readily obtainable alcoholic stimulant must be substituted; but ammonia is always preferable; the strength must at the same time be sustained by table-spoonfuls of strong meat broth frequently given. When the urgency of the attack has yielded under the use of the nauseant and emetic systems, the severity of the treatment may be relaxed, and the following substituted: Three grains of ipecacuanha powder, a drachm of carbonate of potash, and an ounce and a-half of spirit of mindereras are to be made into an eight ounce mixture with water; and of this, two table-spoonfuls should be given every three or four hours. If the cough is very troublesome, three or four drops of laudanum may be added to some of the doses—but this cautiously. The diet light and nourishing.

The acute bronchitis of children is not usually so rapid and strongly marked a disease as that just described; it often begins with the irritation of the membrane of the nose and eyes, and extends itself into the chest. Languor, succeeded by fever, oppressed and quickened respiration, and cough, are the usual symptoms. If these set in severely, from one to four leeches, according to the age of the child, may in an early stage of the disease be applied to the chest; but here, as in the adult, the chief dependence must be on ipecacuanha, half a grain to a grain, or more, frequently repeated so as to cause occasional vomiting. Bran-poultices ought to be used to the chest. The warm bath may be useful in the first stage of depression; but when fever is high, it is not advisable. If the child is unweaned, it must not be allowed to suck, either from the breast or bottle, during a severe attack of bronchitis, but ought to be fed with the breast milk, or its usual food, by means of a spoon. The bowels, of course, will require attention. It is of the greatest importance to attend to the atmosphere surrounding either child or adult suffering from bronchitis: the chamber should be well ventilated, and the temperature not suffered to fall below 55° Fahr. In the latter stages of infantile bronchitis, a small blister* bout the size of half-a-crown, applied for a few hours to the fore part of the chest, may give relief. Bronchitis in children is so hazardous, and frequently fatal a disease, that its domestic treatment ought never to be undertaken, except under necessity. Its exciting cause is almost invariably cold and moisture, particularly during the prevalence of east wind in the spring months; whilst careless and insufficient clothing amongst the poor, and absurd modes of dressing amid the higher classes, render children more susceptible of these injurious influences.

Subacute and chronic bronchitis, known also as winter-cough, catarrh, and often erroneously called influenza, is quite the commonest form of this chest affection, and assumes every condition, from the almost acute attack, to the cough which comes on with the first advent of cold weather, and lasts through the winter and spring. The malady may commence with irritation of any portion of the continuous membrane of the eyes, nostrils, throat or trachea; the part affected feels sore and raw, and instead of its usual bland mucus, secretes a thin somewhat acrid fluid; along with the local symptoms, there is more or less feverish disturbance of the system, and often severe frontal headache; cough is present, or not, at first, according to the part affected. If a threatened attack of subacute bronchitis is to be checked, it must be done in the earliest stage, and for this purpose nothing is more efficacious than the vapour-bath, and in its absence, the employment of means to produce free perspiration, such as hot foot-baths, a hot bed, and the free use of warm diluent drinks. The most efficient medicine for the purpose of checking, is opium, in small doses, and no better form† can be found than that of English paregoric; one or two tea-spoonfuls, along with a table-spoonful of spirit of mindererus, and twenty drops either of ipecacuanha or antimonial wine, should be given at bed-time, along with sufficient water to fill a wine-glass. A tea-spoonful of spirit of sweet nitre may be substituted for the spirit of mindererus. An aperient should be taken in the morning. The above dose may be repeated for two or three nights in succession, if the disease is unchecked. In this case, of course, confinement to the house, or to bed, is required; and demulcent drinks —barley-water is the best—are to be freely used. There is seldom occasion for much medicine; for the alleviation of the cough, the following mixture will be found useful: Tolu syrup, one ounce and a-half; thick mucilage of gum-arabic, one ounce and a-half; ipecacuanha wine, one drachm, water sufficient to make up six ounces. Of this, a table-spoonful may be taken every four hours. If the cough is very troublesome, forty drops of laudanum may be added, and towards the end of the attack, a drachm. of tincture of squills. Bran-poultices to the throat and chest are of service at the commencement of subacute bronchitis; mustard-plasters are not advisable when there is much fever or heat of skin, but a *small* blister to the upper part of the chest will frequently stop the further progress of the malady. In the attacks, the diet of course ought to be reduced, and meat and stimuli eschewed, whilst they last. An attack of subacute bronchitis ought never, if it possibly can be avoided, be allowed to establish itself for any length of time; consumption, asthma, and other chest affections are too nearly allied to it, and too often the seeds of fatal disease, which otherwise might have lain dormant for years, are quickened into activity by the neglected cold.‡

The bronchitic attacks of the aged are always to be regarded with serious attention; what in youth might be but a slight cold, may now be a fatal disease; this arises partly from the viscid nature of the secreted mucus, but more especially from the inability of persons advanced in life to expectorate it; accumulation of phlegm takes place in the bronchial tubes, the oxygenation of the blood is interfered with, torpidity of the vital functions ensues, and adds to the already existing inability to free the lungs, and death quickly takes place, often unexpectedly sudden. For the above reasons, colds in old people must always be watched; all lowering measures must be avoided, the diet kept nourishing, and the medicines be stimulant expectorants. Opium should not be ventured on without medical sanction; the compound squill pill is useful. Camphor, in the form of julep, carbonate of ammonia, and sal volatile, are frequently required. The inhalation of steam will assist the expectoration of viscid mucus. Confirmed chronic bronchitis, or winter cough, requires rather management than medicine. Protection of the skin generally, particularly that of the chest, by flannel worn next it, being most important. Some persons derive much comfort from wearing on the chest a dressed hare-skin, with the fur inwards; it is probable that some of the benefit in this case arises from a gentle counter-irritant effect. The feet, of course, are to be well protected from cold and damp by thick, or gutta percha, or cork soled shoes; and the air passing into the lungs warmed by means of one of the various respirators now in use. As an ordinary method for allaying irritation, a tea-spoonful of paregoric* taken at bed-time in a little water, is most serviceable; or where the opium is objectionable, three or four grains of extract of henbane, or of hemlock, in the form of pill. In all forms of bronchitis the condition of the stomach and digestive organs require due attention. When cough is frequent and violent, the mechanical effect upon the stomach is liable to disorder digestion, and this again reacts upon the lungs, increasing irritation; for this reason the food must be kept light, and a dose of compound rhubarb and blue pill taken occasionally. The infusion of hop, at once a good tonic bitter and a sedative, is useful. In some forms of bronchitis, in which the cough assumes a spasmodic character, and particularly in children, coming on when the stomach is empty, a little food taken will more certainly allay its incessant irritation than any other means.†

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* BRONCHITIS.—Refer specially to article Blister.

† There is now only one Paregoric, the "Tincture of Camphor with Opium," of the Brit. Pharmacopœia.

‡ The Tincture of the "Atherospermum Moschatum" is a new remedy lately introduced, and is certainly of service in the later stages of Bronchitis.—See Appendix.

Refer to—*Expectorants, &c.*

BRONCHOCELE — GOITRE — DERBYSHIRE NECK — FULL THROAT — are all names for the same disease, an enlargement of the "thyroid gland," situated in front of the windpipe. The disease is endemic, that is to say, it is confined to particular districts of country. In England, Derbyshire, and the adjoining counties of Stafford, Leicester, and Nottingham, form its chief locality. In Switzerland and the Tyrol it is common; and occurs in Hinpostan, Canada, &c. &c.

Full throat varies in size, from the enlargement so slight as to be scarcely perceptible—or even, in some eyes, to add grace to the neck—to a tumour many pounds in weight. In Britain, however, it seldoms attains the immense size it does elsewhere. The thyroid gland consists of two lobes, which lie on either side of the windpipe, and of a connecting neck. The whole of these parts may suffer enlargement at once, or only one of them. Bronchocele is much more common in females than in males; indeed, in this country it is rarely seen among the latter; and in both sexes, as a general rule, does not appear till after puberty; children, however, do suffer from it even from earliest infancy. The rise and progress of bronchocele are for the most part slow, unaccompanied with pain; but occasionally rapid enlargement occurs, and then pain is severe. Coughs, child-bearing, strong muscular exertions, are all liable to induce and accelerate the progress of bronchocele; the monthly period also exerts considerable influence upon it. Females of lymphatic temperament are more liable to be attacked.

Bronchocele is a disease for the most part devoid of danger; the chief inconvenience attending it when of large size being impediment to the breathing, and fulness of the head arising from obstruction to the circulation in the vessels of the head and neck. The appearance of a large bronchocele is of course unsightly, although in those localties in which it prevails it is scarcely observed.

Various causes have been assigned for the production of bronchocele; but none with so much probability as that which attributes it to the regular use of water containing lime and magnesia; impregnations of the fluid found coincident with the disease. The use of snow water, as formerly supposed, is now proved to have nothing to do with its development. Carrying heavy weights upon the head has been said to cause the disease; it is not probable that of itself the practice could produce true bronchocele; but, undoubtedly, in common with all other physical efforts or forces, such as cough, which tend to impede temporarily and violently the general circulation about the neck, it will hasten its progress. It certainly is more common among the class of females who are forced to make strong physical exertions. Many different cures have been proposed; fortunately, we possess one so efficacious and certain, that it alone claims our attention. — Iodine exerts the powerful influence. Even before its discovery, the element was used, though ignorantly, in the form of the lozenge of burnt sponge. It is now most generally employed in the form of ointment. One drachm of the compound of iodine and potash, the hydriodate of potash, is rubbed up in a mortar with twenty or thirty drops of water, and then with an ounce of lard, and a portion of this about the size of a small bean rubbed well into the tumour every night, intermitting the application, if the skin—as it often does—becomes sore. Or the tumour may be painted over every night with compound tincture of iodine, but this causes a yellow stain. Should the tumour resist either of these means after they have been persevered in for some time, they may be assisted by five drops of compound tincture of iodine taken twice-a-day in water, on a *full stomach*. Acute attacks of bronchocele require the application of leeches and the use of purgatives, to allay excited action, before iodine can be used with advantage. Bronchocele ought always to be submitted to treatment as soon as discovered. If this is done there is seldom much difficulty in its removal; but if it is allowed to gain a large size, or if it is of old standing, it will resist the most persevering treatment, and perhaps prove a serious cause of inconvenience, especially if it becomes hardened, which it not unfrequently does as life advances. A curious superstition with respect to bronchocele prevails in some of the places in which it is endemic. It is believed that a cure will be effected, if the tumour is rubbed over by the right hand of the corpse of a "bachelor!"[*]

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* When paregoric is mentioned, English paregoric, or "compound tincture of camphor" is always intended.

† BRONCHITIS.—In the latter stages the "Expectorant Pill," p. 393, will be found especially serviceable.

Refer to—*Iodine.*

BRONCHOTOMY, or TRACHEOTOMY, is the operation of making an artificial opening in the trachea or windpipe, in cases in which suffocation is threatened, from any cause which impedes or stops the passage of air into the lungs, at a point nearer the mouth or nostrils than the site of the artificial orifice. It always requires educated surgical skill for its safe performance.

BROOM.—The common broom is one of our most certain and valuable diuretics, too much neglected; it is, too, perfectly safe. The infusion is best made from the green tops; a good handful—about an ounce—to a pint of water, which should be poured upon it boiling, and the whole allowed to stand in a covered vessel near a fire for some hours,—of this, a teacupful may be given twice a day in all cases in which it is desirable to increase the flow of urine. It rarely fails. A few juniper berries may be added to the infusion: in cases of liver affection, the substitution of half dandelion root for one half broom is a valuable combination. The seeds may be used when the tops cannot be procured.

BROTH is the decoction obtained from animal substances, and, when made for the sick, must, of course, be varied in strength, according to the state of the patient. It is best made by putting the article from which it is to be formed into the quantity of cold water, requisite, and keeping the whole at a heat somewhat short of boiling, for many hours: it should then be allowed to become cold and the fat skimmed off. In cases of diarrhœa, broth, in quantity, is apt to increase the tendency, but it is at the same time extremely beneficial, if properly managed; in such cases, it is best made from veal or fowl, and thickened with rice—which may be strained off—and gelatine; and it must be given in small quantities only at a time. In Scotland, by broth is meant the decoction from meat, boiled with pearl barley, and a good proportion of vegetables; it is a much used and wholesome article of diet, and might, with advantage, form an addition to the fare of the English, the labourer in particular. To be wholesome it must be thoroughly boiled.

Refer to—*Beef—Beef-Tea—Mutton—Veal, &c.*

BROW AGUE, a name for neuralgia derived from the marked periodicity of the attacks of pain.

Refer to—*Neuralgia.*

BRUISES and CONTUSIONS are the effects of external violence applied to the body, and may be simple, or complicated with wound of the skin. The effects of bruises depend of course, greatly, upon their situation, and the possibility of the violence which produced them having injured important parts, this being more likely to happen when the contusion affects the head, neck, or trunk. The first effect of a bruise, is to cause effusion of blood, more or less, within the textures injured; on the head this is very evident from the large tumour which will often rise immediately after a blow;—a black eye renders the effused blood visible. Blood effused, as the result of a bruise, does not remain in one spot, but diffuses itself through the loose surrounding textures, and causes discolourations to appear at a distance from the bruise, days after the receipt of the injury. The changes in colour, from black or blue to greenish yellow, &c., &c., which take place during the recovery after a bruise, and which are probably caused by the mode of absorption of the effused blood, are too well known to require description. After bruises of the abdomen, particular attention should be directed to detect the occurrence of blood, either in the stools or urine; if a medical man is called in, it is highly important for him to have information on these points. In bruises of the surface generally, the best and most agreeable application is lint soaked in cold water, or in a cold lotion made with half an ounce of tincture of arnica to the pint of water. After the lapse of five or six hours, hot applications—poultices—will be most required. If heat be used too soon, it may tend to increase the effusion of blood, which the cold checks. The same treatment may be followed, whether the bruise is simple, or complicated with wound. It is a frequent error, popularly, to apply leeches *immediately* after a bruise, when they cannot possibly be of service; they cannot remove the blood which is effused, and are

BRONZED SKIN.—Addison's Disease.—See Appendix.

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[*] BRONCHOCELE.—The distension and protrusion of the eye-balls, alluded to in the note to article "Anæmia," is more especially an accompaniment of that condition when associated with Bronchocele.—See Anæmia.

only useful in the event of inflammation succeeding the injury. After pain and inflammation, in a bruise, have subsided, simple water-dressing may be substituted for the poultices for a few days, and after that, should discoloured swelling remain, friction with soap-liniment will hasten its removal. A severe bruise may run on to the formation of an abscess, or end in mortification of the part. In either case, the effect is known by the supervention of the usual symptoms attendant on these processes, and must be treated accordingly. Severe bruise of a bone is liable to be followed by death and separation of the injured part.*

Refer to—*Abscess—Concussion—Mortification—Wounds Bruised.*

BUBO is the inflammatory swelling of a lymphatic gland, tending to suppuration. The term is most generally applied to the glands of the axilla and groin, when affected, either by venereal causes, or in the progress of the plague. The treatment of bubo is similar to that required in abscess generally.

BUCK-BEAN is one of the most beautiful of our marsh plants. It bears a trefoil leaf, and flowers in June. The blossoms are white and feathery-looking, with a tinge of pink. The leaves of the buck-bean are powerfully bitter, and might, perhaps, be more generally used as a tonic than they are at present. The infusion may be made with an ounce of dried leaves to a pint of water.

BUCK-THORN is a shrub, native to Britain. A syrup made from its berries is used as a purgative, but it is apt to gripe, and need not be used when there are so many better medicines of the same class.

BUNION is the result of chronic inflammation of a small bursa which is situated over the joint—at the ball—of the great toe, and is generally occasioned by the pressure of tight shoes. It is a most inconvenient and unsightly affection, and the more it enlarges, the more does it become exposed to those sources of irritation which originated it. A bunion ought to be attended to at first, and one or two leeches, warm fomentation and poultice used to allay irritation, the offending shoe being at once discarded. Mal-position of the bones at the joint, is a frequent attendant, and, perhaps, an antecedent cause of bunion. When the disease is fully formed, the best plan is to avoid, by the make of the shoe, &c., &c., every source of irritant pressure.

BURGUNDY PITCH is a resin obtained from the pine tribe, but the real article is seldom procurable; that sold for it being a preparation made from common resin. It is used for plasters; they are slightly stimulant.

BURIAL.—As a general rule, it is desirable that the bodies of the dead should be consigned to the earth as soon as consistent with decency and necessary arrangement, more especially where, as in the dwellings of the poor, space is confined and crowded. As an invariable rule, some means for the disengagement of chlorine, and Collins' powder is perhaps the best, should be provided in the chamber occupied by a corpse; it retards decomposition, and destroys all noxious and offensive exhalations.†

Refer to—*Death.*

BURNS AND SCALDS are injuries inflicted upon the body by heat, the latter term being confined to those cases in which the medium has either been liquid or vapour. A burn may vary in intensity, from the slightest scorch, to complete roasting of the tissues; a scald is not so severe in its effects. There are, perhaps, no accidents for which more remedies have been proposed and used, than those resulting from heat; but it will be sufficient, if the best, and most generally and easily applicable are kept in mind.

In the case of slight burns, and of scalds generally, quite the best application is the cotton wadding in sheets; it should be at once used to envelope the injured parts, double if possible, and bound or bandaged on with moderate firmness. If this mode of treatment be resorted to within the first twenty minutes after the injury, nothing more need be done; the cotton may be allowed to remain on from twenty-four hours to three or four days, according to the severity of the accident. Under its use blistering rarely occurs, and if it has commenced before the application, it subsides quickly, and painlessly. For the first ten minutes after the cotton-dressing is put on, the pain of the injured parts seems increased, but ere long, it diminishes, and the inflamed skin appears to relieve itself by gentle perspiration. In the cases above named, when cotton is to be procured—and no house in the country ought to be without one or two sheets of it—it is perfectly unnecessary to use any other measures.

Spirits, whiskey or brandy, turpentine and other stimulants, all have their advocates, but the milder methods are preferable, at least domestically. A mixture of oil and lime-water is employed by some, but is disagreeable and dirty; it may be used in the absence of a better remedy. A lotion made with an ounce and a-half of vinegar to a pint of water, may with advantage be kept constantly applied to a burn *if it be not extensive*—a saturated solution of carbonate of soda has likewise been recommended—cold water is perhaps the most directly grateful application to a burnt or scalded surface, and if continued sufficiently long, will undoubtedly restore the usual condition of the part, but it must be persevered with for many hours, and when a burn or scald is extensive, this is a serious objection, in consequence of the extreme constitutional depression which so often follows the accident, especially in the young; and here the opportunity is taken, of warning parents of the necessity of watching closely the effects of even slight injuries of this kind upon children, particularly when the chest or abdomen are the seat of the accident; extreme depression—requiring the use of stimulants—may unexpectedly come on, and death, from an apparently very slight cause be the result. *When cotton is not readily procurable,* flour dredged over the surface is an admirable substitute, *even in slight burns,* but is more useful still in these severe effects of heat, in which the tissues are deeply destroyed by the action of fire; in these cases, flour applied at once, and repeated again and again for days together, wherever slight moisture seems oozing through the caked covering it forms, is the most generally applicable, pleasant, and safest remedy; a little fresh sweet oil, applied to the surface in the first instance, will make the flour adhere. Whatever application is used in the treatment of a burn, should be calculated to exclude the action of the external air; it ought to be one, also, which does not require frequent changing; indeed, the more extensive the surface involved in the accident, the greater care should be taken not to expose it to atmospheric influence, which, in the first place, increases pain, and in the second, adds to constitutional depression. This depression must always be carefully watched, and combated by the use of ammonia, wine, or spirit, sufficient to support without stimulating. When pain is excessive, and is irritating the nervous system, a gentle opiate is required; but in some of the severest burns, the sensation, not only in the injured part, but generally, is either wholly or partially abolished in consequence of the shock to the nervous system at large. The symptom is of most serious, and indeed fatal import. In the less severe forms of injury from heat, if the cotton, the flour, or cold water, have been properly used, little after-treatment is necessary; but when a burn has been neglected or badly treated, the blisters broken, and when the true skin beneath is inflamed, and secreting matter, a simple tepid bread and water poultice should, in the first place, be applied for six or eight hours, and after it an ointment composed of one drachm of liquor of lead or goulard, rubbed up with an ounce of perfectly fresh lard. This ointment spread on linen, quickly relieves the very painful condition of the injured surface, and is often preferable to the lead lotion sometimes used.

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* BRUISE.—When the skin is unbroken Tincture of Arnica may be used in the proportion of one part to three or four of water. In some persons when used to abraded skins it causes much irritative inflammation.

† BURIAL.—Few of course are now ignorant of the fact that previous to the burial of a corpse a Certificate of death must be obtained from the Medical attendant, and that no certificate is valid except from a *Medical Man duly Registered.*

In cases of deep burn, with destruction of the tissues, after the flour has been applied some days, it begins to be pushed off by the matter formed underneath, at this time poultices are to be continued until the caked flour is separated, and the surface below exposed, after which the simple dressing with tepid water will generally be the best and safest application, or in a later stage, if healing is slow, the lead ointment above recommended will be found useful.

During the cure of burns involving contiguous parts, such as the fingers, care must always be taken to keep the surfaces asunder by the interposed dressings, otherwise they may become united. After extensive burns or scalds, the constitution requires attention; the stimulating treatment of the first few hours or days, must be dropped when feverish symptoms come on, and mild and cooling diet, gentle aperients, and cooling saline medicines administered; opium being given if requisite to allay pain or nervous irritation. This system will again require to be changed for one of stronger nourishment; meat soups, meat and wine, or other stimuli, if there is continued discharge. The use of stimulating diet, however, requires caution, on account of the tendency to inflammation of the lining membrane of the stomach and bowels, which exists during convalescence from injury to the skin by heat.

The frequent occurrence of accidents from burns or scalds, renders it desirable that all should be aware of the best methods of managing these painful injuries, which, when slight, may be well attended to without the aid of the surgeon; but which, when severe and extensive, and when, in children, the chest or abdomen are involved, ought, without delay to be put under professional care; accidents and symptoms may arise which educated skill alone can foresee or counteract. Scalds of the throat are not unusual accidents to children in consequence of their attempting to drink from the spout of a kettle of boiling water. The injury is imminently dangerous, and when it has occurred, *whether alarming symptoms come on at once or not*, a surgeon should be summoned; it may probably become necessary very speedily to open the windpipe to save from death by suffocation; and the operation may be resorted to with good hope of success. In the interval, before the arrival of medical aid, leeches, from two to six, according to the age of the child, should be applied to the throat externally, and four grains of calomel administered at once. If ice is to be procured, it should be constantly put into the mouth in small fragments.

In managing burns or scalds immediately after their occurrence, the following should be remembered:—

To protect from the action of the atmosphere—and the greater the extent injured the more necessary the precaution—to give stimulants or opium cautiously. The remedies—cotton—flour—oil and lime-water—vinegar and water—cold water.[*]

Refer to—*Skin, Water-dressing, &c.*

BURSÆ, are small bags of membrane, containing an oil-like fluid. They are placed in various parts of the body liable to pressure or friction.

BUTE, an island in the Frith of Clyde, possesses "a mild, equable, but rather humid" climate, resembling in this respect the south west of England. Invalids, for whom the air is not too relaxing, find Rothsay, in Bute, a good winter residence.

BUTTER, the oily constituent of milk, separated by the process of churning, is one of the commonest, and when properly used, most wholesome articles of food. When fresh, that is, free from rancidity, it forms a nutritious, it might almost be said instinctive, addition to farinaceous diet. Much has been said, in writings upon diet, respecting the unwholesomeness of butter, and, undoubtedly, in certain states of the system and of the digestive organs, it is so, but for healthy individuals it is the reverse. Butter in some persons, and if immoderately used in all, gives rise to biliary derangement, partly, doubtless, from its furnishing an excess of biliary material, but also from its presence in the stomach, as observed by Dr. Beaumont, causing a flow, or regurgitation of bile into that organ. The above remarks apply to simple butter unspoiled by cookery. When butter is exposed to gentle heat it melts; and under this condition, has obtained a reputation for indigestibility which is due rather to the quantity consumed than to its being merely put in that state which it assumes when it is exposed to the heat of the stomach. The case is very different, however, when butter has been exposed, whether alone, or combined with farinaceous articles, to a high temperature, such as that of an oven; it now becomes altered in character—empyreumatized—and is rendered very indigestible and irritating to the weak stomach. It is for this reason that baked pastry is so much more indigestible than boiled, from the greater heat to which the former is exposed. Butter, when it becomes rancid, contains various acids, which are so unwholesome that they may almost be ranked as poisons.[†]

BUTTERMILK, the thin acid fluid left after the separation of the butter, is a most wholesome and refreshing article of diet, either in health or sickness, and one, too much neglected. In diseases attended with fever it may be given largely with benefit. It can be made artificially, by shaking a quantity of milk in a bottle capable of containing four times the quantity, until the butter—which must be strained off—is separated. The cork of the bottle being removed occasionally during the process, to permit of the renewal of the air.

BUXTON, celebrated for its mineral springs, is situated in an elevated part of Derbyshire. It is much frequented for the purpose of bathing, during the summer months, by those who suffer from chronic gout and rheumatism; and many persons derive much benefit in these diseases from the use of the waters. The season extends from the beginning of June till October. The water is a saline much weaker than that of Bath.[‡]

BAKING—is the exposure of any substance to a high temperature in a confined space. It is not considered so wholesome a method of cooking animal food as roasting; it renders the fatty constituents more empyreumatic and more irritating to a weak stomach than the latter process.[§]

BALDNESS—or loss or deficiency of hair on parts usually covered by it, is sometimes seen in infants; it frequently occurs in adults of the male sex, even in the prime of life, and almost universally in a greater or less degree, in old age. The direct occasion of baldness is defect in the hair follicles, from which the hair is developed, and this defect may arise from diseases affecting the skin itself, from acute general disease as fever, or chronic constitutional disease such as consumption; it may also arise from constitutional peculiarity, or the diminished circulation of blood, such as occurs in advanced life. Some families appear to be peculiarly liable to become the subjects of baldness even early in life; those who perspire much about the head are often bald. Generally, however, whatever occasions diminished supply of blood to the scalp or skin, gives the hair a tendency to shed, and the treatment must be directed to stimulating the skin as much as possible. After acute disease, if the hair falls off, shaving the part two or three times in succession will probably strengthen the growth. In other cases, much covering upon the head, which causes perspiration, and consequently weakens the skin, must be avoided; the head should be well washed with cold water every morning, and afterwards rubbed and brushed to promote reaction. Various applications are recommended to prevent or cure baldness; they are all stimulant. Those of which cantharides, or Spanish blistering flies, form an ingredient, are generally most serviceable. A drachm of the tincture of cantharides, rubbed up with an ounce of lard, will form a sufficiently stimulating ointment. The infusion of the leaves of the *Asarum Europæum*, a plant which occurs wild in the woods in this country, is a *very efficacious* stimulant to the hair follicles; the infusion may be used as a lotion to the scalp. Falling off of the hair, which is occasioned by eruptive disease, or which is accompanied with inflammation of the skin, of course requires a different and more soothing treatment; probably medicine is required, and the case is better submitted to the treatment of a medical practitioner.*

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[*] BURNS—See Appendix. Burnett's Solution—See Appendix. Disinfectants—See also Chlorine.

[†] BUTTER.—An artificial butter is said to be made abroad from purified Colza oil and potato starch! In England, pulverized flint chemically converted into a soluble jelly-like substance has also been used in butter adulteration. Chromate of lead has been used as a yellow colouring agent in butter as well as in confectionary.

[‡] Buxton.—See Appendix.

[§] Baking in an oven is an excellent way of destroying any chance of infection from clothes which have been worn by the sick.

In the baldness of early life, the hair drops off without the previous change of colour which occurs in age; in the latter case, of course, no treatment is either likely to be resorted to, or to be of service.

Refer to—*Hair—Skin.*

CABBAGE, as an article of diet, is not only wholesome but extremely nutritious; it is, however, only suited for persons of good digestive powers. From the extreme liability of cabbage to pass into a state of putrefaction it should always be used as fresh as possible.

CACHEXIA is a term used to express an unhealthy state of the system, induced by causes—such as deficient or unwholesome nourishment—which tend to depress, without causing fever. See *Scurvy, Rickets, &c.*

CADDIS.—LINT.

CÆCUM.—The commencement of the large intestine. See *Alimentary Canal.*

CÆSARIAN OPERATION is the process of extracting the infant by cutting through the walls of the abdomen and womb. It is occasionally resorted to by medical men, as a fearful necessity, to save life, when delivery can in no other way be effected. It derives its name from the tradition that Julius Cæsar was brought into the world in this manner.

CAFFEINE is the characteristic principle of coffee, identical with that of tea, "theine." It is a compound, nearly approaching the kreatine of animal muscle in its constitution. See *Coffee.*

†CALAMINE is a carbonate of zinc employed in medicine in the form of a grey powder; it is chiefly used to sprinkle upon excoriations, chaps, &c., &c.; but there are so many better applications that it might be altogether dispensed with. Mixed with wax and olive-oil, it forms the ointment known as "Turner's Cerate." The proportions are, calamine and wax, of each half-a-pound, olive-oil sixteen fluid ounces. The wax and oil are melted together, and the powdered calamine is stirred in during the process of cooking.

CALCULUS.—See *Gravel.*

CALOMEL.—See *Mercurials.*

CALORIC.—The term used to distinguish the cause of the sensation of heat, from the sensation itself. See *Heat.*

CALUMBA, or COLUMBO, or COLOMBA, are different modes of spelling the name of the same root. Calumba-root is sold in transverse sections of various diameter and thickness—Fig. A—which are covered by a brown wrinkled bark, are of a greyish-yellow colour, and rayed on the cut surface. Calumba is one of the best pure bitter tonics we possess, it is free from astringency, and exerts a sedative action. In irritable dyspepsia, with vomiting, and particularly in the vomiting of pregnancy its effects are most beneficial, especially when it is combined with from five to fifteen grains of either bicarbonate of soda or of potash. Calumba may be given in powder, in infusion, or tincture, but never in decoction. The dose of the powder is from ten grains to forty; of the infusion, from a table-spoonful to a wine-glassful; of the tincture, one to two tea-spoonfuls in water. The powder of calumba may be taken in water, simple or aromatic: eight parts of calumba powder, eight parts of carbonate of soda, and two parts of ginger, form a most excellent stomachic in dyspepsia, of which half a tea-spoonful may be taken in a wine-glassful of

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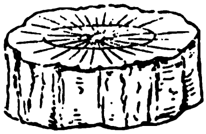

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* BALDNESS.—The following has been recommended as effectual:—Take oil of mace, two drachms; rectified spirit, three ounces. To be applied night and morning to the part affected. Cajeput oil—See Appendix.

† Calamine and its preparations are omitted from the Brit. Pharmacopœia.

water once or twice a day. Infusion of calumba is made by pouring a pint of boiling water upon five drachms of the sliced root, and macerating for a couple of hours in a covered vessel. It ought to be made fresh every day, as it quickly spoils. Tincture of calumba is better purchased. See *Tinctures.*

CAMBOGE, or GAMBOGE, the well-known pigment, is a drastic cathartic, too powerful to be used alone with safety, as a domestic remedy. In an overdose it seriously irritates the lining membrane of the stomach and bowels, causing inflammation of a dangerous or fatal character. Camboge is said to form a constituent of some of the quack purgatives, and certainly any compound medicines containing it cannot be safely adopted for general or "universal" use, however valuable the medicine may be when administered in proper cases. When simple purgative action is required, camboge cannot be requisite whilst we possess safer and equally effective drugs; but from its property of producing free watery evacuations from the bowels; in cases of dropsical swelling, it is very serviceable. Camboge is most safely and advantageously given in combination, and the compound camboge pill, is a powerful cathartic adapted for those in whom confined bowels accompany a full and strong habit of body. The pill is made by mixing together, in fine powder, camboge one drachm, aloes one drachm and a-half, ginger half a drachm, and beating up the whole into a mass with two drachms of soap. The dose of the pill is from five to ten grains. It is not suited to delicate habits.*

Refer to—*Dropsy—Cathartics.*

CAMPHOR is a white, semi-transparent, volatile substance, but resembles in some degree the volatile oils. It is stimulant, diaphoretic, anti-spasmodic and anodyne. Camphor is but sparingly dissolved by water, but sufficiently so to communicate both taste and smell, and to form a slightly stimulant solution, or julep, which may either be used internally, or as a refrigerent lotion. It is most simply made by keeping a few fragments of camphor in a bottle of water. In the low stages of fever, camphor is one of the most valuable remedies we possess, exerting at once a stimulant and a soothing effect; it is sometimes given for this purpose in almond emulsion, but quite the best vehicle is milk. From twenty to thirty grains of powdered camphor are to be rubbed up in a mortar with an ounce of milk and five ounces of water gradually added; of this mixture the dose will be two table-spoonfuls. It must be remembere that camphor cannot be reduced to powde unless the lump is first wetted with a fe drops of alcohol, or spirit of some kind Spirit, oil, and acetic acid, all dissolve camphor readily; its solution or tincture, in th first, is well known as a dentifrice, and i frequently given domestically, dropped int water, as a stimulant, in colic, hysteria, &c. &c. It is made by dissolving one ounce camphor in eight ounces of spirit. Th dose from ten to forty drops, in wate The solution of one ounce of camphor, i eight ounces of olive-oil, forms the common domestic stimulant embrocation, camphorated oil. An over-dose of campho produces giddiness, confusion of sight an delirium; an emetic is the best remedy.

Refer to—*Dentifrice—Embrocation.*

CANCER—is one of the most fearful and justly one of the most dreaded diseases to which the human frame is liable and whilst its formidable nature classes i with those which ought *at once* to be place under proper medical care; the same reaso renders it most important that its firs symptoms should be known and attende to, whilst there is yet time to save life Cancer usually commences as a hard tumour, unaccompanied with inflammation and either painless, or the seat of intermittent shooting pain. It more frequentl occurs in females than in males, and attack the breast oftener than any other organ. I men, the genitals are liable to be affected and chimney-sweeps particularly, becom the subjects of cancer of the scrotum, produced, in all probability, from continua contact of the soot. The skin generall may become the seat of cancer. Of th internal organs, the womb in the female and the stomach, are the most frequen seats of the disease; of these the symptoms will be noticed under the head o the individual organs. Cancer is very rar under thirty years of age. When, fro the nature of a tumour, its hardness, situation, age of the patient, and particularl if there be any hereditary bias toward the disease, incipient cancer is suspected there should be no trifling, no leechings, o rubbing, or fomentings; the advice of skilled surgeon should be sought at once and neither time, distance, or expense should stand in the way of procuring tha assistance which may not only preserve life but save from a lingering and painful death Should the suspicions be unfounded, th mind is restored to peace; should they b correct, the one remedy, excision, canno be too soon submitted to, before the gland adjacent to the disease, or other textures

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CALX, LIME.—See Lime.

* CAMBOGE.—The composition of the compound Camboge Pill has been altered in this new Brit. Pharmacopœia. It is now—Take of Camboge, one drachm; Barbadoes aloes, one drachm; Aromatic powder, drachm; hard soap in powder, two drachms; and syrup, a sufficient quantity to make into a pill mass Dose from five to eight grains.

the body, become tainted. In any stage of the disease, however, the advice of the regular practitioner ought to be taken; above all, let the sufferer and the friends beware of being tempted by the specious advertisements of quack remedies, and of wasting time of which every day is precious.

When, unfortunately, cancer has reached the stage at which hope of cure must be given up; when it has become an open grey-looking ulcer, discharging thin fetid matter, the seat of shooting and stinging pain, and when the constitution is affected, it only remains to make the situation of the sufferer as comfortable as possible. Opium in its various forms is the great soother, and the other anodynes, hemlock especially, both internally and as a poultice, are all of service. Cod liver oil in some cases allays the pain and retards the progress of the disease; but the regulation and administration of these remedies must be committed to the care of the medical attendant; the domestic remedies must be, the most perfect cleanliness and kindest consideration for the comfort and irritabilities of any one who is the victim of cancerous disease. Cancer cannot be said to be propagated by contact; but this should be avoided as much as possible; in the intimate relations of husband and wife, especially, whatever the organ or structure affected.

The lower lip, is not unfrequently the site of cancer in old people; it is said, in those who smoke much; a painful sore in this situation, which will not heal, ought not to be neglected, but submitted to medical examination.

Refer to—*Breast—Stomach—Womb, &c.*

CANCRUM ORIS — is a species of mortification, or gangrenous inflammation affecting the cheek and gums. It occurs in children of weak scrofulous constitution, who are ill fed, and exposed to the influences of unhealthy habitations; and most generally immediately after acute disease, particularly measles. Mercury is often blamed as the originator of this disease, and if given too freely, it may perhaps contribute towards its development; but the main fault is in the constitution. The usual first symptom of the disease is a red, hard, angry-looking spot on the cheek, which quickly opens into a gangrenous fetid ulcer inside the mouth, the gums become affected, the teeth drop out, the breath, as might be expected, is unbearably fetid, and the extending ulceration goes on destroying the cheek and contagious parts, till it is either stopped, or death ensues.

As the first cause of this fearful affection is traceable to poverty of constitution, the first remedial measure is to nourish. The strongest meat soup—beef-tea is the best—must be given in small quantities frequently repeated; milk and eggs if the little patient will take them. Wine may be allowed if the debility is extreme, but scarcely, if at all, should fever run high, and there is much heat of skin. The preparations of chlorine are most to be relied on as medicines. A drachm of chlorate of potash is to be dissolved in six ounces of water, and to this added twenty drops of muriatic acid.* A table-spoonful of the mixture to be given to a child of six years of age every four hours; it may be slightly sweetened. Half-grain doses of quinine, or an ounce of infusion of bark, may be given twice or three times in the twenty-four hours. A lotion made with a drachm of chloric æther to the half-pint of water, is extremely serviceable applied to the affected parts, and diminishes the fetor; or a drachm and a-half of the solution of the chloride of soda, to the half-pint of water, may be used for the same purpose. The case ought to be seen by a medical man as soon as practicable.

CANELLA BARK—is an aromatic tonic, and is used as a spice. It may be given in powder, in doses of fifteen or twenty grains.†

CANINE TEETH.—SEE TEETH.

CANTHARIDES.—The word is the Latin plural of *Cantharis—vesicatoria* the Spanish blistering fly.—See *Blister*. In addition to its uses as a blistering agent, the Spanish fly is used internally; but is too hazardous a remedy for general use. It is sometimes given as a poison, for malicious or criminal purposes. When swallowed in a poisonous dose, cantharides quickly produce severe pain in the stomach and bowels, and intense inflammation; distressing irritation of the urinary organs follows, with constant desire to pass urine, which comes away in small quantities, with or without blood, or is entirely suppressed; stupor and delirium precede death. The remedies in a case of poisoning by Spanish fly must be of the most soothing character; milk given cold may, as it coagulates in the stomach, envelope the irritant particles, or it may be used boiled with flour; white of egg, linseed-tea, or indeed the emollient most quickly and easily procurable should be swallowed largely; and vomiting, if not present, promoted by a feather in the throat, or by ipecacuanha. Oil is sometimes forbidden in such cases, from its being a solvent of cantharides; but after vomiting, or even before, if the dose is not large, one or two doses of castor oil may safely and advantageously be given, each in combination with twenty or thirty drops of laudanum. Clysters of starch, linseed-tea, or the like, with or without laudanum, will allay the irritation in the lower bowels. Hot applications to the abdomen generally should be used, and if there is much tenderness, leeches, freely. Should the patient recover, the state of the alimentary canal and urinary organs for some time require care, and the mildest and most unirritating mode of living must be pursued. A little cantharides ointment, smeared upon the silk of a seton, increases the discharge when deficient.

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* CANCRUM ORIS.—Half a drachm of Chloric Ether may be added with advantage to the mixture—See also Disinfectants.

† CANELLA BARK is now omitted from the British Pharmacopœia.

Refer to—*Blister*.

CAOUTCHOUC, or Elastic Gum, or Indian Rubber, is obtained from different species of trees, both in South America and in the East Indies. It is interesting in medicine, from being the basis of the various elastic mechanical contrivances, now so extensively used in the relief and cure of disease. One of the chief inconveniences in the use of caoutchouc, was its becoming hard when cold; the discovery of its combination with sulphur—vulcanized indian rubber—has obviated the difficulty, and we now have a material which remains perfectly elastic and soft at all temperatures. This valuable property has been quickly taken advantage of. The water cushion of Mr. Hooper of Pall-mall, is one of the most useful applications of the material, it can be filled either with boiling or with iced water, the latter, a very valuable resource in fever, for keeping—what there is always much difficulty in doing—the back of the head cool.

Refer to—*Elastic*.

CAPILLARY—hair-like.—The term is applied to the minute vessels connecting the arteries with the veins in the animal body; also to tubes of minute calibre.

CAPSICUM.—Cayenne pepper, is better known as a condiment than as a medicine. A product of warm climates, it is admirably suited as a stimulant counter-agent to the relaxing effects of heat. It is extensively used in this country, and when not immoderately, is undoubtedly serviceable to persons of languid digestion. In too large quantity it will, of course, prove an irritant poison. Two parts of cayenne, three of compound rhubarb pill, and one of quinine, form an excellent dinner pill, from three to six grains of which may be taken twenty minutes before the meal, for a week or ten days at a time, by persons of feeble habit of body, with tendency to constipation. Dr. Christison recommends a strong infusion of cayenne—a tea-spoonful in six fluid ounces of boiling water—to be used as a gargle in incipient sore throat—fever being absent. The accidental introduction of a particle of cayenne into the larynx is dangerous; it has occasioned death.[*]

CARAWAY SEEDS are the fruit of an umbelliferous plant, and are too familiarly known to require description. They are a good carminative, may be given whole, in tea-spoonful doses, or in the form of distilled water, a wine-glassful at a time, or may be added to other medicines, such as senna.

[†]CARBON, Carbonic Acid, Carburetted Hydrogen. Carbon, charcoal, occurs in its purest natural state in the form of the diamond, and of plumbago, both of which are pure carbon. It is one of the bodies considered elementary, and forms a large proportion of the matter of our globe and of its productions. The most familiar form of carbon is that of wood charcoal, which is interesting in a medical and hygienic point of view, from its powerful antiseptic properties, and the rapidity with which it removes the signs of, and tendency to putrescency. Water which has become putrid, as it frequently does at sea, is quickly restored to wholesomeness by agitation with charcoal powder. The powder is frequently applied to fetid and sloughing sores, either sprinkled upon them or mixed with one of the common poultices: it is a good dentifrice.

CARBON, either in a fixed or in a transitory condition, is an important and abundant constituent of organized bodies. Of the vegetable kingdom it is the characteristic element; every leaf and every blade of grass which is exposed to the influence of daylight, is busy abstracting from the atmosphere the carbonic acid which is continually diffused through it in small proportions, decomposing it, and rendering back to the air the vital oxygen, but fixing the carbon as a component of the vegetable solids, and putting it in that form, in which, along with other elements, it is fitted to become the nutriment of the animal. Carbon, although not so characteristic a component of the animal, as of the vegetable kingdom, yet enters largely into the constitution of the former; it assists to give permanent form to the various tissues, and furnishes one of the most active material agents, which, under the influence of life, make up the sum, and contribute to the varied changes and effects which are ever going on in the animated body. We have every reason to believe, that carbon is the medium by which, as it combines with the oxygen inhaled by the lungs, and carried through the system by the blood—the animal temperature is maintained. Such being the case, it is evident, that next to oxygen, carbon is the element which must be most regularly and sufficiently supplied to the living body; the other constituent elements must undoubtedly be provided in food, but their omission for a time is not so apparently and quickly felt as that of carbon; if this be not furnished from outward sources, it is used up from the bodily tissues as long as they will yield it, even though its use involves their destruction, and the dispersion of the other elementary bodies of which they are composed. This actually happens in long fevers, during which little or no nourishment is taken; the carbon—and hydrogen—of the fat in the first place, and afterwards of the other portions of the body, is used up in sustaining the animal heat—as fuel—until a point is reached when it can be yielded no longer, and when the patient will actually die of cold, unless there is freely administered, the gelatinous soups, the wine and spirit, with their abundant carbon and hydrogen, which yield their own combustible elements, to maintain the heat, and to protect the tissues of the already exhausted patient.

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[*] Cayenne Pepper has of late years come into common use among the lower orders as a medicine, and death has been the not unfrequent result of its injurious administration.

[†] Carbolic Acid.—See Appendix.—Carbon, or Prepared Charcoal, is at times prescribed with advantage in cases of flatulence, more especially where the flatulent eructations are offensive. A tea-spoonful may be taken in a small wine-glassful of water, either alone or along with 30 or 40 drops of Sal-volatile. It is also useful for alleviating the fetor from offensive sores, if placed in small bags over or around them. Clysters containing charcoal have also been used to correct offensive discharges from the bowels.

The discoveries of modern chemistry show us how beautifully the Almighty, in His goodness, has arranged the products of the various latitudes of the globe, has disposed the varied articles of food, he gives to His creatures, to man, in accordance with the various climates and modes of life in those climates, so that carbon may be consumed in due proportion along with the other elements; less in the watery fruits of the tropics and of our own summers, more in the fats and oils of the cold north.

Refer to — *Aëration—Blood—Bile—Digestion—Food—Respiration, &c.*

CARBONIC ACID GAS or "choke damp," is a compound of one part of carbon with two parts of oxygen; it is colourless, and much heavier than atmospheric air, a property which gives it a dangerous tendency to collect at the lower parts of any inclosed spaces in which it may be disengaged. Old wells, brewers' vats, the holds of ships, &c., are all liable to become the receptacles for carbonic acid gas, which, formed from some decomposing vegetable matter, lies like a stratum of water at the bottom of the receptacle. Should any one incautiously descend, so as to become enveloped in the carbonic acid atmosphere, respiration is either instantly stopped by spasmodic closure of the chink at the upper portion of the windpipe, and complete suffocation is the consequence; or if the gas is sufficiently diluted with air to be drawn into the lungs, it speedily manifests its narcotic effects upon the system, and the person quickly falls in a complete state of stupor. The respiration becomes laboured, and after a time ceases; the countenance is livid or pale, and there may be convulsion, and frothing at the mouth. In such a case, the body of the individual must be removed, if possible, and as soon as possible, from the poisonous atmosphere, or the latter must be destroyed or dispersed. The many fatal accidents which have occurred from persons venturing rashly into old wells, and such like places, might be a warning for the future, and prompt the invariable employment of the simple test of lowering a lighted candle into the suspected place. If the flame be extinguished, the atmosphere is certainly destructive to life; if it burn even with a feeble and diminished intensity, there is danger. Of the various modes for destroying a carbonic acid atmosphere, none is more speedily effective than the introduction into it of newly-slaked lime, either spread upon a board, or mixed with water, and dashed into the place; fresh lime, having a powerful affinity for carbonic acid, quickly absorbs it. In the absence of lime, a quantity of fresh water dashed freely down, so as at the same time to absorb the gas and promote circulation of air, will be serviceable; or large bundles of combustible material, which will cause currents of air, may, when blazing freely, be thrown in. Caution in the first instance, is the best preservative; but in the event of an individual dropping in an atmosphere of choke damp, it is perfectly useless for others to rush in to bring him out; they can no more exist in it than he could, and in stooping to lift a fallen body, they become all the more thoroughly immersed in the poisonous gas. Instead of rashly sacrificing life in the ill-directed endeavour to rescue another, let those who are present dash bucket after bucket of water or weak lime and water into the place, and on the fallen person, until the unextinguished flame tokens that the fatal atmosphere is weakened at least; and when they do venture in, tie over the mouth a cloth soaked in lime-water, in a *weak* solution of caustic potash, or of simple water if these cannot be obtained.

In cases of suffocation from immersion in choke damp, cold water should be dashed freely over the individual as soon as removed into the open air, and this measure, succeeded by heat applied to the surface, stimulant embrocations to the chest, spine, &c., stimulant clysters, and ammonia held *at intervals* to the nostrils, whilst artificial respiration is at the same time brought into action, and steadily persevered in for some hours.

Carbonic acid is produced during fermentation, or by the slow decomposition of vegetable matter, such as damp straw, sawdust, wood chips, &c. It is the gas disengaged in effervescing liquors generally; it is also produced along with other vapours of which carbon forms a constituent, in the burning of charcoal.

Poisoning by charcoal fumes, either by design or accident, is not an unfrequent occurrence. In the latter case, it usually occurs from persons ignorantly retiring to sleep in a closed-up room, in which burning charcoal is used as a means of warmth. The carbonic acid, and other fumes disengaged, act slowly and insidiously, and exert so powerful a narcotizing effect, that those exposed to the influence are quickly rendered unable to remedy the circumstances, and perfect insensibility ensues. Too often it happens, that the discovery of the accident does not take place until morning, long after it is too late to remedy the fatal effects; the sufferers are usually found dead. If living, they will probably be perfectly insensible; the countenance pale and livid. Immediate removal to the open air, and free exposure to its influence by removal of the greater part of the clothing, is the first proceeding, and the treatment recommended in cases of poisoning from choke damp is to be followed. Carbonic acid is largely evolved in the process of lime-burning, and persons who have incautiously slept in the immediate neighbourhood of a kiln have been destroyed by it. The poisonous contamination of the air in crowded assemblies has already been treated of in the articles, "Aëration," "Air," "Blood," &c.

There is yet another source of poisoning by carbonic acid, which occurs when it is largely given off from fluids taken into the stomach in a state of fermentation. This accident is said by Liebig to happen in Germany in consequence of persons drinking wine whilst it is fermenting; the generation of the carbonic acid is stimulated by the heat of the stomach, and it is given off in such quantity as to permeate even the lungs, causing suffocation. The best remedy is ammonia, both inhaled and taken into the stomach.[*]

In medical practice, carbonic acid is given in the form of effervescing drinks. Some mineral waters contain it naturally; soda water, and other similar fluids, are mechanically impregnated with the gas; it is, too, very frequently given as disengaged from one of the carbonates of the alkalies by means of an acid. In most cases, the action of carbonic acid, given in this way, on the stomach, is very beneficial; it appears to be at once stimulant and sedative, and no remedy is more generally useful in cases of vomiting; it is an agreeable form of medicine to most persons. When effervescing drinks are given to persons confined to bed, they should always sit up for a few minutes after the draught is swallowed, to allow of the eructation of the air, which not being got rid of in a horizontal posture, may produce uncomfortable distension.

Refer to—*Effervescing.*

CARBURETTED HYDROGEN.—Coal gas, or fire-damp, is a compound of carbon with hydrogen. The fearfully destructive explosions in the coal mines are the result of the ignition of this gas when it has collected in quantity. Its constant use in dwelling-houses, as a means of light, sometimes gives rise to similar accidents, and occasionally life has been endangered by the inhalation of it when it has escaped into an apartment. This has sometimes occurred from persons unused to gas-light, blowing out the flame on going to bed, instead of turning the stop-cock. In such cases, treatment very similar to that pursued in poisoning by carbonic acid may be followed out.

CARBUNCLE resembles a boil in many respects, but is larger. It is a hard, inflamed, intensely painful swelling, of any size, up to that of a saucer, or even larger: it is flat on the top, and contains a slough, or mortified portion of cellular tissue, which must be discharged before the disease can subside. After the inflamed swelling has existed for some days, small points of ulceration through the skin on its surface begin to shew themselves, they enlarge, coälesce, and at last form one large opening, through which the slough or core is discharged, either entire or broken down and mixed with bloody matter. When all has been got rid of, the cavity begins to fill up from the bottom; and generally in the course of a few weeks becomes entirely healed. Such is the progress of a carbuncle, which does not require interference. The treatment consists in the first place, of assiduous fomentation, and poultices of bread, oatmeal or linseed meal, and in the open stage, yeast; when the cavity is fairly emptied of sloughs, the poultice must be exchanged for water dressing, which will in all probability require no alteration during the cure.[†] A small carbuncle may thus, as far as the sore is concerned, be simply and safely attended to, but much more may be required. Carbuncle occurs in two very opposite states of system—in those of full habit, and in those of broken constitution. In the former, eight or ten leeches may with advantage be applied round the base of a large incipient carbuncle, and free purging, cooling saline medicines, and low diet be resorted to, should a surgeon be in attendance, he will probably make a free crucial incision to facilitate the exit of the core. In those of broken constitution, the opposite treatment will be requisite—all unnecessary loss of blood must be avoided, and whilst gentle alterative mercurial aperients are given, the system must be soothed by opiates, and supported by quinine or bark, along with strong meat broths, wine or porter.[*] In such constitutions, a carbuncle of any size is a serious, and not unfrequently a fatal affection. Carbuncle is certainly indicative of a deranged state of the system generally, and of the assimilative powers in particular; it more frequently happens too, that a large carbuncle has been preceded by two or three smaller ones, or boils, in succession. The occurrence of these ought always to be taken as a warning; the man of full habit should reduce his diet, meat and stimuli in particular, take exercise freely, and five or six grains of blue pill and compound colocynth pill every night, or every second night, for a week or ten days, and a gentle saline aperient in the morning. A tendency to carbuncle in the delicate or aged, must always be regarded seriously, not only as indicative of serious functional disorder of the assimilations, but from the direct danger arising from the disease itself. On this account, it is always desirable that the case should be put under efficient medical care, early, so that, if possible, constitutional treatment may arrest the threatened evil. In the case of a carbuncle of any size being developed on persons advanced in life, of weak constitutional power, the case is too dangerous to be left to domestic management if medical assistance can be procured. If not, the treatment must be carried out as above directed.

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[*] CARBONIC ACID.—See Appendix—Drowned persons, Recovery of.

[†] CARBUNCLE.—A moderately strong solution of quinine in water has been used as a dressing to carbuncles with advantage. It should be applied by means of lint under oil-silk.

The most usual seat of carbuncle is the back part of the body and head, the arms and thighs.

CARDAMOMS, are the seed capsules and seed of a shrub, a native of the islands of the Indian sea. They resemble orange pips in shape, are about half-an-inch long; the covering which envelopes the seeds is brown and tough, and must be removed. Cardamoms are one of the best stimulant aromatics we possess, particularly the compound tincture, in one or two tea-spoonful doses in water. The powder of the seeds may be given; from ten to fifteen grains at once.

CARDIAC.—Belonging to the heart.

CARDITIS.—Inflammation of the heart, divided into pericarditis when it affects the membrane covering the outer surface—endocarditis when the lining of the cavities is affected, and carditis when the muscular substance.

Acute inflammatory affections of the heart may arise from cold, violence, &c., but in the majority of cases, they are concomitant with rheumatic fever, in the progress of which they are so apt to arise, that the medical attendant must be constantly on his guard to counteract the slightest symptom indicative of a tendency towards the heart becoming involved. This tendency he may sometimes detect by means of the stethoscope, even before the patient complains or is conscious of any uneasiness about the organ; this is of course a great advantage, and strong argument, why every case of rheumatic fever, however slight in appearance, should be placed under the care of the regular medical man. But the symptoms of inflamed heart, particularly in the above disease, may come on suddenly — whilst medical aid is hours distant. The patient is seized with palpitation, increased rapidity of pulse, oppression of breathing, and sense of extreme anxiety in the region of the affected organ—pain may or may not be present. Every minute is of consequence. Leeches, if procurable, should be put on over the region of the heart to the number of twelve or eighteen, according to the condition of the patient. Continued nausea should be maintained by the fourth or sixth of a grain of tartar emetic, given every three or four hours, and a pill containing three grains of calomel and half a grain of opium, given every four hours. Perfect quiet must be observed, and the lowest diet. If the rheumatic inflammation has suddenly deserted a previously inflamed joint, it will be well to apply a mustard plaster to the place, with the view of possibly re-exciting the action which appears to have been transferred to the heart; at the same time, it must be remembered, that the heart may be affected without any such apparent transference.

The above measures judiciously carried out, will do much to retard the progress of so serious a disease as carditis, and there is the advantage, that from its so frequently accompanying rheumatic fever, an unprofessional person will have less difficulty than in many other affections, of making up his mind on the nature of the seizure. Inflammation of the heart, whether arising in the progress of rheumatic fever or not, will of course be characterized by the same symptoms. The treatment recommended above, is to be resorted to irrespective of cause.

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[*] CARBUNCLE.—In almost any case of carbuncle, after the tongue has become tolerably clean, twenty minims of the Dilute Nitro Hydro-chloric Acid may be given with advantage three times a-day, in a wine-glassful of water, or of infusion of Bark, or with a grain of Quinine. The addition of five or ten drops of Chloric Æther to each dose is pleasant and useful. Carbuncle should always, if possible, be treated by a medical man.

CARMINATIVES — relieve flatulence and spasm in the bowels. The principal carminatives are, dill, anise, caraway, lavender, peppermint, pennyroyal, and their various preparations; but any stimulants and aromatics, such as nutmeg, ginger, spirituous liquors, &c. &c., are carminatives.

CAROTIDS—are the large arteries which pass up the neck on each side of the windpipe, to supply the head with blood.—See *Artery*.

CARRARA WATER—is an artificially prepared effervescing water, holding carbonate of lime in solution by means of an excess of carbonic acid. It is useful in some forms of dyspepsia.

CARRAGEEN MOSS.—The article sold under the name is a sea-weed. When boiled in water it yields a vegetable jelly, or mucilage, which requires flavouring to make it palatable. It is nutritive, but probably not more so than other jellies. One ounce of carrageen, previously soaked for a quarter of an hour in cold water, is to be boiled in a pint and a-half of water till it is dissolved.

CARRON OIL—is a mixture of equal parts of lime-water and linseed-oil; it has been much celebrated as an application in burns, having first come into use at the Carron iron works, in Scotland. It is certainly soothing, but need scarcely be employed whilst there are other and less disagreeable remedies at hand. When used it is smeared over the burnt part by means of a feather.[*]

Refer to—*Burns*.

CARROT—the well-known vegetable, is nourishing, and contains a considerable proportion of saccharine matter, but it is not easily digested by weak stomachs, and requires thorough boiling to make it wholesome for any. In the experiments of Dr. Beaumont, carrot was found to take three hours and fifteen minutes of the healthy digestive process, for its solution.[†]

CARTILAGE — GRISTLE — is a white-looking semi-transparent substance, closely resembling gelatine in composition. It covers the extremities of the bones at the joints, and also serves as a bond of union between different bones. Bone itself is in the first place deposited in cartilage, which is abundant in the young; but as age advances, much of the latter substance —such as that which connects the ribs with the breast bone—becomes ossified.

CASCARILLA BARK — is obtained from a tree native to Jamaica and the Bahamas. It bears considerable resemblance to cinchona bark, but is more aromatic. In dyspepsia and debility generally it is useful. The infusion is made by pouring on an ounce and a-half of bruised cascarilla bark, a pint of boiling water, and macerating for two hours. The dose, from half to a whole wine-glassful. The tincture is of course, a warmer stimulant. One to two tea-spoonfuls of the latter may be taken in water, or added to other bitter infusions. Cascarilla is used in the formation of pastiles.

CASSIA PULP—is obtained from the pod of a species of cassia by boiling. It is mildly laxative in doses of two or three ounces; but at present has fallen into disuse.[‡]

CASSIA.—See CINNAMON.

CASTILE SOAP—is a hard soap, compounded of soda and olive-oil, and is used in medicine for making pills, plasters, &c. It is sold both white and mottled; the former is preferable.

CASTOR-OIL—the well-known aperient, is obtained from the seeds of the *Ricinus communis*, or castor-oil plant, by expression either hot or cold, or by boiling in water. Cold drawn castor-oil, or what is sold as such, is most generally used in this country. Castor-oil is one of, if not the most certain and safest of our aperients; in most persons it acts quickly, without pain, clears the bowels effectually, leaves them with a greater tendency to relaxation than before, and does not require the dose to be increased, in consequence of repetition. From earliest infancy to old age, castor-oil may, as a general rule, be given with perfect safety; but yet there are some persons who cannot take it. Some stomachs will not retain the oil, however disguised; in a few individuals it acts almost drastically, and produces a painful sensation of piles, and occasionally it causes, during its action, deadly faintness. These, however, are but exceptional instances.[§]

In consequence of its gentle but effectual action it is most valuable as an aperient, in properly regulated doses, for persons of weak habit of body. Its certain action, the tendency to relaxation which remains after its employment, and the circumstance that the dose requires rather to be diminished than increased by continued use, render castor-oil peculiarly adapted for those who suffer from habitual constipation. In all conditions of body in which it is desirable to clear the bowels, effectually, but without much disturbance, the oil is invaluable, in pregnancy more particularly. Irritation of the mucus lining of the bowels, whether inflammatory, or in the form of simple diarrhœa, is in many cases more quickly relieved by castor-oil than by any other remedy.[*] See *Bowel Complaint*, *Diarrhœa*, &c.

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[*] Carron Oil may be made more agreeably with equal parts of lime-water and olive oil.

[†] CARROT.—Finely-grated carrot, made into a poultice, is often used, it is said, with good effect, to open cancerous and other foul sores.

[‡] Cassia Pulp is used in making Senna Confection.

[§] CASTOR-OIL.—Preparations from the leaf of the castor-oil plant are employed to promote the secretion of milk when it is deficient. Refer to "Child-Bed."

The great objection to castor-oil, its sickly nauseousness, has given rise to a variety of modes of taking it. Floated in brandy and water, barley-water, or some aromatic water, are favourite modes with many, others take it best in hot fluids, tea, coffee, or gruel, the heat getting rid of the feeling of oily consistency so disgusting to some. A piece of orange or lemon-peel chewed just previous to taking a dose of castor-oil, blunts the acuteness of the nerves of taste. Castor-oil may be taken in emulsion, made with mucilage or milk; but rubbed up with yolk of egg *is* the best form of mixture. In this way, it is not so active an aperient as when uncombined; but in irritable and inflamed conditions of the lining membrane of the bowels, it is especially valuable when combined with opium. Six drachms, by measure, of castor-oil, are to be well triturated in a mortar with the yolk of one egg, and to this soft water, or some aromatic distilled water, is to be added *gradually*, to the extent of six ounces. If an aromatic water is not used, a few drops of some essential oil, such as cinnamon, may be added before the water. The mixture resembles custard in consistence.[†] The dose an ounce—two table-spoonfuls. The usual dose of castor-oil alone, is about half-an-ounce, or one table-spoonful.

CATALEPSY is a peculiar affection of the nervous system, caused generally by sudden violent mental emotion. Sensibility to external things, and the power of voluntary movement is lost; the limbs remain flexible, but retain whatever position they may be placed in. The signs of life are, in this affection, occasionally so obscured, that the person has been accounted dead. Stimulants — ammonia to the nostrils — should be used, and stimulant enemata, with continued friction over the body, particularly down the spine. *Electricity*.

Refer to—*Death—Signs of.*

CATAMENIA.—The female monthly discharge. See *Menstruation*.

CATAPLASM.—A poultice. See *Poultice*.

CATARACT is an affection of the eye which produces opacity of the crystaline lens, and more or less obstructs vision according to the extent of the disease. The affection is most common in persons advanced in life, but may occur at any age. An individual who is becoming the subject of cataract, complains of seeing objects, as it were, covered by a mist or veil; vision is sometimes better in an obscure light, when the pupil becomes dilated. When the disease is a little advanced, anything placed a little to one side is better distinguished than if it is directly in front, the first opaque spot of cataract occupies the centre of the lens, or the axis of vision, in which situation, it can be detected by examination.

When cataract is in its incipient stage, its progress may perhaps be arrested by judicious treatment, and for this reason the case should, as quickly as possible, be placed under medical care; in the interim, the bowels must be attended to, stimulants avoided, and a blister applied to the nape of the neck. When cataract occupies the whole circle of vision, and produces blindness, it may be removed by operation. An oculist or surgeon should always be consulted on the case.

CATARRH is inflammatory irritation of the mucous membrane lining the air-passages — the nostrils and bronchi. It usually commences in the former, and extends to the latter. Catarrh, or "a cold," as its popular name implies, is generally the result of cold combined with damp, but quite as frequently of checked perspiration, in consequence of the individual passing from a heated room to a current of cold air; it is, too, not improbable, that the recently discovered agent ozone, when it exists in excess in the atmosphere, exerts an irritant effect upon the respiratory membrane. Catarrh commences with feverish symptoms more or less severe, shivering followed by heat. A peculiar dryness and heat of the lining membrane of the nostril, is followed by discharge of thin acrid watery fluid, "a running at the nose," and with this, there is intense headache between the eyes. Or the throat may be first affected, or the chest itself may be directly attacked, though if not, it will quickly become so; the windpipe feels as if raw, there is frequent cough, dry and harsh, or with thin expectoration, and the breathing is oppressed; there is in fact subacute bronchitis.

The evil of a "neglected cold" has become proverbial, and justly so—it is great. The attack ought to be checked at first. It has been recommended, that as soon as the nostrils become affected, a solution of sulphate of zinc—five or six grains to the ounce of water, should be injected into them by means of a syringe, and it is said, that by this means, if *adopted in the very first stage*, the catarrh may be stopped; this cannot be expected, however, to influence in the least the constitutional symptoms. The first measure in incipient cold, is to restore, and excite the action of the skin, to get free perspiration. This is best accomplished by the vapour or warm-bath, but if these cannot be had, the best remedies are hot water to the feet, a warm bed, and hot diluent drinks, along with diaphoretic medicine. A draught consisting of half an ounce of spirit of mindererus, one to two drachms of paregoric, and ten to fifteen drops of ipecacuanha wine, with water sufficient to fill a wine-glass, should be given with five grains of Plummer's pill, on getting into bed, and about an hour after the warm drinks*; in the morning, some gentle aperient, senna, or castor-oil, or seidlitz powder is to be taken. If there is much irritation of the chest at night, a bran poultice, a mustard plaster, or friction with a stimulant liniment may be employed. The treatment above recommended, may be followed up for two or three nights in succession; confinement to the house, low diet, and demulcent drinks, such as barley-water, &c., &c., being superadded. When catarrh is not checked, it runs on to cough, in fact to bronchitis, more or less severe. See *Bronchitis*.

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[*] CASTOR-OIL.—In some parts of Central America, where the castor-oil plant grows abundantly, it is scarcely, if at all, used as a medicine, being considered poisonous, or to cause fever. Its effects cannot be calculated on with certainty. This might be useful to emigrants.—*Vigne's Travels in South America.*

[†] CASTOR-OIL.—Refer to Diarrhœa and Dysentery. A good mode of administration for children is to simmer a small quantity of milk and sugar with cinnamon, till the flavour is well imparted, and then to shake up the castor-oil and hot flavoured milk in a bottle. Another mode is recommended by M. Martin. The quantity of oil required is put in an earthen pan; an egg is broken on it; the pan is then heated, and the oil and egg shaken up together, so as to produce an *œuf brouillé*. A little salt is then added. "I have given," he says, "to a man an omelette made of three eggs and forty-five *grammes* of oil, and he has eaten it without finding out the oil." In China, we are told, castor-oil is daily used in common cookery.

Catarrh is unquestionably the effect in many cases of unavoidable atmospheric changes and influences, but it is much oftener the result of carelessness or imprudence—of carelessness in not guarding the body against the effects of our changeable climate—for catarrh is a very English disease, and particularly the neglect of wearing flannel or some woollen material next the skin, which is the very best preservative. Rooms, in the house, too warm, and exposure to the air insufficiently clothed, are fertile sources of catarrhal affection, especially in children. Insufficient protection to the feet and dampness is another. There is, too, in females, the exposure of the chest, after heated ball-rooms, public amusements, &c., &c. The use of fur round the neck is not unfrequently the cause of cold affecting the throat: whilst close to the skin, it produces warmth and perspiration, but when the boa or victorine is thrown back, a chill at once ensues. It is not meant to controvert the use of fur, so requisite in this climate, but to guard against the incautious and sudden relinquishment of the protection.

Refer to—*Bronchitis—Influenza.*

CATECHU—an extract obtained principally from trees of the acacia genus; is brought chiefly from the East Indies and Singapore. It is powerfully astringent, and is met with in masses of various sizes, either of a dark brown or of a pale reddish-brown colour. It is used both externally and internally. In some forms of diarrhœa, catechu, used either in the form of infusion, tincture, or confection, is serviceable, and also in the form of infusion as a gargle in relaxed sore throat, or elongated uvula. In the latter cases, a convenient mode of employing catechu, is to permit a few grains to dissolve in the mouth—for this purpose the pale catechu is the pleasantest. In sponginess of the gums, powdered catechu forms a good dentifrice. One of the most valuable external applications of catechu, is in the sore and chapped nipples of nurses; it must be used in the form of tincture, put on the nipple each time after the infant has been nursed, by means of a small paint brush or feather, and wiped off with the wetted corner of a towel before the child is put to the breast. To make the infusion of catechu, a pint of boiling water is to be poured upon six drachms of the powdered extract, along with one drachm of bruised cinnamon, and the whole infused for an hour; the dose is from two to four table-spoonfuls. The dose of the tincture is from one to two tea-spoonfuls and of the electuary twenty to forty grains, the latter is astringent and aromatic, and contains about one grain of opium in every 193 grains.

CATHARTICS, are medicines which stimulate the bowels to increased action.

Refer to—*Purgatives.*

CATHETER—an instrument used by surgeons, and with slight exception to be used by them alone, for drawing off urine from the bladder, which is retained in it in consequence of disease. Some peculiar cases are entirely dependent upon the use of the catheter for relief; and remain so for years; under this state of circumstances, the patient ought to learn to employ the instrument for himself, and many do so; with this exception, it must be used by professional hands alone, for even in these it requires both skill and care, and may do serious mischief. In cases which require a catheter to be regularly passed, the operation generally becomes easier. The passage of the catheter being simply a mechanical operation, requiring tact, and a correct knowledge of the parts of the body implicated, and of the direction of the urethra, may of course be acquired by any one who will take the trouble to educate himself upon these points.†

Refer to—*Bladder.*

CAUL. The omentum.—See *Omentum.* —The term is also applied to a portion of the uterine membranes, which is sometimes carried along with the head of the child at birth, and covers it like a veil. The caul is frequently preserved. Much superstition used to be attached both to the circumstance and to the object itself.

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* CATARRH.—The warm drinks are of course to be given an hour after the medicines.

† CATHETERS vary in size and form, and the instrument for the male is totally diverse from that required for the female.

CAULIFLOWER, a vegetable of the cabbage tribe, agrees better than most other vegetables, with those of weak digestion. The addition of melted butter is injurious.

CAUSTICS are substances which destroy organised tissues by combining with their constituent elements. The mineral acids, strong acetic acid, potassa, lime, nitrate of silver, refined sugar, belong to the class, and may be referred to under their respective heads.

CAUTERY is iron applied at a red or white heat to the animal body. It is a powerful means of counter-irritation.

CAYENNE.—See *Capsicum*.

CELLULAR MEMBRANE or TISSUE, or AREOLAR TISSUE, is the reticular membraneous web, which connects the various portions of the body, and fills up the interstices. It is made up of numberless little fibres and bands crossing each other in every direction, and enclosing small spaces, which freely communicate throughout the body. The most familiar exemplification of cellular tissue, and of its free inter-communication, is seen in the blown-up veal of the butcher. In the living body, the areolar tissue contains a thin water or serous fluid, which, when it accumulates in undue quantity, constitutes one form of dropsy, finding its way by permeation through the cellular meshes to the most dependent part of the body.

*CERATE.—An ointment, of which wax forms a component. The hard wax, and fluid oil or lard, when combined, forming a compound of convenient consistence.

Simple cerate is formed by melting together equal parts of white wax and olive-oil, and stirring during cooling.

Calamine, or Turner's Cerate. See *Calamine*.

Lead cerate.—Acetate of lead five drachms, white wax eight ounces, olive-oil twenty ounces. Dissolve the wax by heat in eighteen ounces of the oil, rub up the acetate of lead finely with the remaining two ounces, add this gradually to the larger quantity, and stir during cooling.

Resin cerate: Take of resin five ounces, lard eight ounces, bee's-wax two ounces, melt them together with a gentle heat, and then stir the mixture briskly while it cools.

Soap cerate is sometimes useful: it is better procured ready prepared.

CEREBRUM.—The brain.—See *Brain*.

CEREBELLUM.—The lesser brain.—See *Brain*.

CERUMEN is the waxy matter of the ear, of which the chief purpose is, probably, the repulsion—by its bitterness and other qualities—of insects which might enter or harbour in the passage. It sometimes accumulates to so great an extent, especially in the aged, and in the young, particularly after acute diseases, as to cause deafness, more or less complete, which is generally accompanied with noises and other uneasy sensations in the affected organ. The accumulated wax may, possibly, be detected, by examining the ear-passage with the aid of a candle. In order to remove the hardened mass, a small portion of warm olive or almond-oil must be dropped into the ear for two or three nights in succession, for the purpose of softening and loosening the wax; after that has been done, the passage must be thoroughly syringed out with warm water, by means of a two-ounce syringe, till the wax is detached and washed out. Some persons become faint and giddy on having the ears syringed; in such cases the operation is best undergone in the horizontal posture.

Refer to—*Ear-Syringe*.

†CHALK.—Carbonate of lime occurs abundantly in various parts of the world; it is used in medicine as an absorbent and antacid. For medicinal purposes it requires to be levigated, by which process the finer particles are separated: when dried, the preparation constitutes the "prepared chalk" of the shops. As a general antacid, chalk is scarcely to be recommended, but in cases of diarrhœa, especially in children, where much acidity exists, it is highly useful. For the latter purpose, from twelve to eighteen grains of chalk rubbed up in an ounce and a-half of dill water, form a mixture of which a tea-spoonful may be given to an infant six weeks old, every few hours if requisite.

In the case of adults, the ordinary chalk mixture is an excellent preparation; it may be made with prepared chalk two drachms, powder of gum acacia two drachms, cinnamon water, or water simply, eight ounces; a drachm and a-half of sugar may be added, but is quite as well omitted; better, if the climate is a warm one, as it causes fermentation. To the above mixture, rhubarb, laudanum, &c., may be added if requisite. The dose, two or three table-spoonfuls, repeated more or less frequently, according to the amount of diarrhœa. The compound chalk powder—dose thirty to sixty grains—and the same powder with opium—dose five to twenty grains—are both useful and easily carried preparations, which ought to form part of the domestic medicine chest of the emigrant, or, indeed, wherever the usual sources for procuring efficient medicines are far distant. The powders ought to be procured ready prepared. Forty grains of that compounded with opium, contain one grain of the drug. Chalk forms an ingredient in the aromatic confection. The practice of sprinkling chalk powder upon sores, for the purpose of absorbing discharges, &c., is not to be recommended.

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* Cerates are omitted from the British Pharmacopœia, and are now included under Ungents or Ointments. Turner's Cerate is omitted altogether.

† CHALK.—The Compound Chalk Powder has been exchanged in the British Pharmacopœia for the Aromatic Chalk Powder; and the Aromatic Chalk Powder is combined with Opium in the preparation of one grain of the latter to forty grains of the former. The average dose for an adult being twenty to thirty grains.

CHALK-STONE—is the concretion deposited around and in the joints of those who suffer from chronic gout. It consists of the lithic acid and soda, which form a comparatively insoluble salt. The liability to the formation of chalk-stone, is a reason why those who are subject to gout should, when an antacid is required, make use of potassa, which, in union with lithic acid, forms a much more soluble salt than soda does.

Refer to—*Gout—Urates Acid—Urine.*

CHALYBEATES—are medicines containing iron. The term is well known in connection with mineral waters. The most generally used chalybeate springs in this country are those of Tunbridge-wells, Cheltenham, and Scarborough; Leamington and Harrogate also possess chalybeate waters, and there are many others, including Hartfell, and Peterhead, in Scotland, scattered throughout the island. In chalybeate waters the iron is generally in combination with carbonic acid, the taste of the water is inky, and if it be one of those—and they are the most general—in which the metal is in combination with carbonic acid, when the water has stood exposed to the air for some time, it lets fall a yellowish sediment. Chalybeate waters are, by virtue of the iron they contain, powerful tonics, and well adapted as curative agents in diseases of debility generally; but they are not to be lightly and unthinkingly used, or without professional sanction. Many persons do themselves serious injury by unadvisedly drinking mineral waters, under the idea that if they do no good, they cannot do much harm. To persons of full habit, and with any tendency to head affection, even a short course of chalybeate water might be most seriously dangerous.

Refer to—*Iron.*

CHAMOMILE—the "*Anthemis Nobilis*" of botanists, is too well known to require description. The flowers, either fresh or dried, are deservedly classed amid the most useful, safe, and generally employed domestic remedies. They are often, it is true, wasted, in making fomentations and poultices, for which they are no better than the simple water or bran; but their infusion taken internally is an aromatic bitter of undoubted tonic properties, and without nauseousness. In simple debility of the stomach and loss of appetite, chamomile tea, if not used too frequently, and for too long time at once, is a safe and good remedy. Half-an-ounce of chamomile flowers may be infused like common tea, in rather less than a pint of boiling-water, or if time be given, in cold water, which makes an equally efficacious and pleasanter dose. Chamomile tea drank warm is often employed as a gentle emetic by itself, or to aid the action of other medicines of the class; alone it is very uncertain, unless made very strong. From five to ten drops of the essential oil of chamomile, dropped on sugar, is a useful, and not unpleasant carminative.

*CHAMPAGNE,—the well-known wine, contains about 12 per cent. of alcohol, a much less proportional quantity than the strong dry wines, such as port, sherry, Madeira, &c. When effervescing, however, it exerts a powerful but transient intoxicating effect. Champagne is often accused of causing gout, indigestion, &c., but perhaps these are more likely to be the results of the other luxuries which accompany a champagne dinner, than of the wine itself.

CHANCRES—are small ulcers, the result of inoculation with the venereal poison. They commence in the form of small pustules, which, after breaking, degenerate into yellowish grey-looking sores, around which the skin feels firm or hard. Thorough destruction of the chancre in the first instance, by means of nitrate of silver, lunar caustic, is the only safe measure. When the disease has advanced beyond the incipient stage, or indeed in any stage, it cannot be a subject for domestic treatment, and ought more especially, on account of the lamentable results which may ensue should the constitution become affected, to be without delay entrusted to proper medical care.

CHAPPED HANDS—so troublesome to many in frosty weather and during cold dry east winds, may partly be avoided by care in thoroughly drying the skin after washing. The following lotion will be found useful: take of borax two scruples, glycerine half-an-ounce, water seven and a-half ounces. This may be used twice-a-day.†

CHARCOAL.—See Carbon.

CHARPIE—the loose fibres from scraped linen, used to absorb the discharge from sores. It is more used in France than in this country.

CHEESE—is the curd or caseine of milk mixed with a proportion of butter, pressed, salted, and dried. A general and nutritious article of diet, it is not one suited to weak stomachs. A meal of bread and cheese alone requires a thoroughly strong digestion to dispose of it comfortably. Many, however, who cannot eat cheese in this way, may take it in small quantity with impunity, and when old almost with advantage, at the close of a moderate meal. Much of the indigestibility of cheese arises undoubtedly from its toughness, and the cohesion of its particles, this diminishes as it verges towards decay; but is much increased by toasting, which renders the article decidedly unwholesome. Cheese is said to assist the digestion of other articles of diet; and there is an old rhyme:—

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* Champagne.—Within the last ten years this wine has come into much more general use, owing to the reduction in price. In diseases of exhaustion, more especially in the extreme debility of fever, when the stomach is irritable, few medicines are equal to Champagne frequently given, in quantities of from half to a whole wine-glassful. In many cases of even temporary nervous exhaustion it is a valuable restorative.

† Chapped Hands.—Take of Lead Solution—Oxide of Zinc—Glycerine—each one drachm—Pure Lard two ounces—Rub well together—Use to the hands every night. See also Appendix.

> "Cheese is a peevish elf,
> Digests everything but itself."

Probably, the power put forth by the stomach for the solution of the cheese acts more readily upon the less tenacious substances submitted to it at the same time. The habitual use of old cheese in any quantity is injurious, and may occasion cutaneous eruptions. In Germany, a peculiar kind of decay in cheese has occasioned symptoms of irritant poisoning.

The caseine, or curd of milk, which forms the basis of cheese, very closely resembles albumen in composition; its nutritive power may be known from the fact, "that from caseine alone the chief constituent of the young animal's blood, as well as its muscular fibres, membranes, &c., are formed in the first stage of its life."

The contrast afforded by tough indigestible cheese to the milk curd adapted for easy solution in the stomachs of the young, is a good example of the manner in which an article of diet, nutritive and wholesome, may be modified as regards its digestibility, by preparation. Caseine is found in the vegetable kingdom, chiefly in seeds.*

Refer to—*Milk*.

†CHELTENHAM.—The climate of Cheltenham is considered particularly adapted for health, there being neither great extremes of heat, nor of cold. To those, however, with whom a dry and bracing atmosphere agrees, its climate is less favourable than some other localities.

"The mineral springs of Cheltenham are exclusively employed for internal administration. They, for the most part, resemble each other as to the nature of their component parts, yet present considerable differences in the relative proportions of their ingredients. They are rich in muriate and sulphate of soda. Several of them contain a small portion of iron, and iodine has been lately detected in them. They are but slightly gaseous, and though two or three of them have, when first drawn, a slight odour of sulphurated hydrogen, it soon passes off, and is probably dependent upon the springs passing through a layer of mud, or matter in a state of decomposition. It must not, therefore, be supposed that the so-called sulphuretted wells are analogous in their action with the class of sulphurous springs. * * Besides its saline springs, Cheltenham possesses two chalybeate ones, which, like others of the same class, have a disagreeable inky taste, and are somewhat dark-coloured. From their not containing much carbonic acid, they do not sparkle, and are soon decomposed on exposure to the atmosphere.

"There are many diseases in which the Cheltenham springs may be used with advantage. Persons who have lived in India and other tropical climates, who have been accustomed to take large doses of mercury, will generally derive benefit, less from the aperient than the tonic properties of the waters. For gouty patients, also of a plethoric or irritable habit, they are advisable. And in cases of amenorrhœa and chlorosis they do good service, where with it a faulty condition of the digestive organs exists."

For the substance of the above article, and of others similar to it, the author is indebted to the work of Mr. Edwin Lee on the "Watering Places and Mineral Springs of England," and those who desire further information cannot do better than have recourse to the publication itself.

CHERRY.—The fruit of the *Prunus cerasus*. Like other stone-fruits it is apt to disagree.

CHESNUT—is the fruit of the *Castaneo vulgaris;* it is nutritious, contains much starch, and no oil, like many others of the nut tribe. It is certainly indigestible from its firm and coherent substance, but is rendered much more unwholesome by being converted into flour, in which state it is largely used on the continent. Roasted chesnuts are more wholesome than raw, but are not fit for weak stomachs.

CHEST,—or, in medical language, the thorax, is the important cavity situated between the neck and the abdomen—see fig. A—which contains the heart and large blood vessels and the lungs. It is separated from the abdomen by the diaphragm, it is bounded by the breast-bone anteriorly, laterally by the ribs, and is supported posteriorly by the spine—fig. B. It is singular how much ignorance there is among the uneducated regarding the situation of what is called the chest; generally it is referred to the pit of the stomach; and what is called

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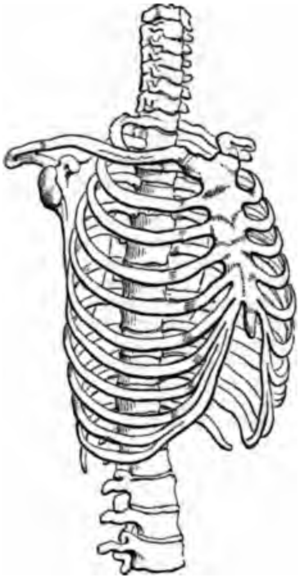
* CHEESE.—It should be known that in this country symptoms of poisoning have resulted from eating decayed cheese, and the case of the "Burley" Riflemen, twenty of whom suffered alarmingly from such a cause, may be remembered. The chief symptoms are severe pains in the bowels, and general collapse. The treatment for colic would be applicable here—See Colic.

† CHELTENHAM.—See Appendix—Health Resorts.

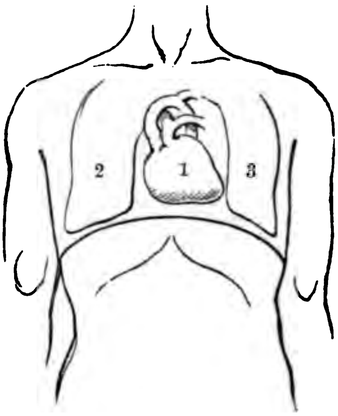
"a pain in the chest," is in many instances, a pain in the former situation. In ordering applications, leeches, blisters, and such like to the chest among the poor, it is absolutely requisite to indicate with the finger the exact spot on which they are to be placed, otherwise the chances are, that if simply the chest is named, the pit of the stomach will be understood; a serious mistake in many of the acute affections of the chest, particularly in children.

The form of the chest itself is, or ought to be, that of a truncated cone, broad below, narrow above—fig. B. It is true it *appears* the reverse of this, even naturally, and is made to do so still more by the absurd ideas about small waists; but the greater apparent width at the upper part of the chest in the living person is due to the shoulders and arms, when these are removed, the contrary is seen to be the case, and the cavity itself, as exemplified in fig. B., is evidently much more capacious in its lower than in its upper part. The principal contents of the chest are the lungs—fig. A., 2, 3—and the heart—1—with the large vessels immediately connected with it.

B



A



When by tightly-laced stays, or other contrivances, the lower part of the chest is compressed, the contained viscera must find room somewhere; the diaphragm yields more readily than the long ribs, and is pressed down upon the liver, stomach, and bowels, disordering their functions, and laying the foundation of disease, whilst at the same time the free play of both lungs and heart are impeded. In other words, the possessor of that most desirable physical conformation, a capacious chest, is doing all that is possible to render it otherwise; or should the cavity be naturally small, to make it still more deficient in size, by artificial restraint, instead of every means being used to augment its capacity. A small chest always gives a greater liability to disease; all tendency therefore to contraction, stooping of the shoulders, &c., ought most sedulously to be watched and attended to, particularly in young people, whilst the bones are still soft and yielding; disease may be either the cause or the consequence; the spine too should be well examined. Exercises, which from moderate exertion call for full expansion of the chest by respiration, and full play of the arms, are generally useful. The elastic "chest expander," made of vulcanized india rubber, is a most excellent contrivance for the purpose. Some trades, particularly that of shoe-making, tend in the course of time to affect the conformation of the cavity of the chest.

The physical examination of the chest as regards measurement, the sounds elicited by tapping upon it in various ways with the fingers, and heard by the application of the ear, either directly, or mediately by means of the stethoscope, are most important aids in the investigation of disease, and should never be omitted or objected to. For the purpose of facilitating description, the cavity is mapped by vertical and horizontal lines, in a similar manner to the abdomen.

Refer to — *Abdomen* — *Heart* — *Lungs* — *Respiration.*

CHEST—Water in.—See *Dropsy.*

CHICKEN POX is a mild eruptive disease which spreads by infection, and chiefly attacks children, occurring once during life. It is preceded in most, but not in all cases, by slight feverishness, for one or two days. The eruption first appears in the form of conical pimples with a white head, on the breast, shoulders and neck, more sparingly on the face, and on the body generally. On the second day, the vesicles appear like little globular blisters, but with very slight surrounding inflammation; on the third and fourth days, the fluid they contain becomes opaque or whey-like; they now either break or shrivel up, forming thin puckered crusts, which fall off piecemeal in one or two days more, seven or eight days being the whole time occupied by the course of the disorder. Little or no treatment is required beyond a gentle aperient repeated once or twice, and care taken that the child does not irritate by scratching.

Chicken pox might be mistaken for modified small pox by the inexperienced; it is distinguished by the absence or extreme mildness of premonitory fever, and by the rapid development, course, and different form of the vesicles, particularly in the absence of the central depression, which characterises the true small pox vesicle.

CHICORY.—The *Cicorium intybus,* the root of which, when roasted and ground, forms the well-known adulteration of coffee. Some persons consider the admixture of chicory with coffee an improvement, and at all events harmless, but the recent investigations of the "*Lancet* Sanitary Commission," tend to show that infusion of chicory, alone especially, and also when mixed with coffee in the proportion of twenty-five per cent., produced sense of weight at the stomach, languor, and head-ache; it has, by an eminent continental authority, been assigned as one of the exciting causes of amaurosis. Infusion of chicory occasionally acts as an aperient, at other times as a diuretic. In consequence of chicory not containing essential oil, it has not, when roasted, the fragrance of coffee, its infusion has a "sweetish and mawkish taste, and is dark coloured, thick and glutinous." But although chicory is used as an adulteration, the recent *Lancet* investigations go to prove that it is itself extensively adulterated with various substances. These are, "carrot, parsnip, mangel-wurzel, beans, lupin seeds, wheat, rye, dog biscuit, burnt sugar, red earth, horse chesnut, acorns, oak bark, tan, mahogany saw-dust, baked horse's and bullock's liver, Hamburg powder," which consists of peas roasted and ground, and coloured with the next article, "Venetian red," also an adulteration. Perhaps after such disclosures, few persons will prefer chicory in their coffee; and, at all events, the moral fraud of vending for the pure article, that which is mixed, ought not to be suffered. When hot water has been allowed to stand for some time on coffee containing chicory powder, the grains of the latter lose their colour, and resemble small brown sago, whilst those of the coffee become rather darker than before.

CHILD-BED.—The term may be applied either to the actual labour itself, or to the confinement generally, from the first commencement of the symptoms to the completion of convalescence. It is in the latter sense it will be considered in this article.

The process of child-birth consists of a series of the most beautiful adaptations to the mechanism and structural and vital endowments of the human frame, with every providential provision for the safety both of the mother and infant, during the trying but important event. When the full period of pregnancy is completed, the process which is to free the womb of its contents, commences with the preparatory relaxation of the various parts connected with the passage of the child into the world; shortly, the long-closed orifice, or "mouth" of the organ begins to open or dilate, allowing, in the first place, the protrusion of the membraneous bag which contains the fluid, or waters, in which the infant floats, and which protrusion forms a soft wedge, dilating the maternal structures preparatory to the passage of the hard head of the infant, which follows as propelled by the expulsive efforts of the womb. Sooner or later, however, this membraneous bag gives way under the pressure, the waters are discharged with a gush, and the head itself becomes, in great measure, the dilating agent. Although not in the position at the commencement of labour, at its conclusion, the head of the infant should pass from the mother with the face looking directly backwards, and in the great majority of cases it does so, attaining the position by a series of turns which cannot be profitably explained to the unprofessional. In some cases, however, the position of the head is reversed, so that it passes with the face directed forwards, causing a more protracted and painful labour. Moreover, the head may not come forward, or "present" first, at all, but some other portion of the child, causing an irregular or cross birth.

Most women form, or endeavour to form, a calculation as to the period at which they may expect to be confined, and while some do it with considerable apparent exactness, others get far wrong, much to the inconvenience of themselves and of those appointed to attend upon them. The most usual calculation as regards the duration of pregnancy, is forty weeks from the last menstrual crisis, and this is generally made the basis of the calculation; but as more cases fall within the period than extend beyond it, it is safer for expectant mothers to arrange their preparations for the thirty-eighth week than later. By some it is thought, that the duration of pregnancy in the case of a male child is longer than in that of a female. As, however, cases of premature confinement of living children are not uncommon, it is always desirable that essentials be provided for as early as possible.

The most generally received premonitory sign of approaching labour at the full period, is "sinking," that is, from twenty-four to forty-eight hours before the actual process commences, the female seems as if she were smaller and lighter altogether, the waist especially showing a diminution in size. At this time, also, there is generally a degree of fidgetiness, or undefined mental anxiety, similar to that which is observable in the lower animals, and there frequently exists irritability of the bowels and bladder, calling for repeated efforts at relief. When the bowels are very troublesome, and there is much involuntary straining, or, as it is called, "tenesmus:" nothing relieves more than a clyster consisting of half-a-pint of gruel with twenty drops of laudanum. At length, slight twinges of pain are experienced, either in the womb itself, or in the back, hips and thighs, or in all together, and there is more or less discharge of slimy mucus, generally streaked with blood: shivering, with nausea or vomiting, are also frequent concomitants of the first accession of labour.

As time advances, the pains become more defined and regular, and when these, the "grinding" pains, have fairly commenced, the first stage of labour may be considered as established. This stage lasts, on an average, from six to twelve hours, but may, of course, much exceed, or fall short of this stated period: during its continuance, the mouth of the womb undergoes "dilatation," or full opening. Towards the close of the first or dilating stage of labour, the pains are altered in character, and become expulsive, or as they are popularly termed, "bearing down," at first slightly so, but as the process advances, their forcing character is more strongly marked, and in most instances, the nearer the birth of the child, the more powerful and nearly connected are they, until at last the infant is expelled. Generally towards the middle of the expulsive stage, the "waters" are discharged; the sudden gush sometimes causes alarm to the inexperienced, who ought on this account to be forewarned of the circumstance. The whole process of labour, in the case ot first children, averages from twelve to thirty hours; it is, however, not only as regards time, but in every other respect, liable to great variation. Attacks of spurious pain, resembling true labour, are not uncommon during the last month of pregnancy, but these may be known by the absence of the previous sinking, and of most of the other symptoms above enumerated, as characteristic of the real process. The attack is often the result of confined bowels, or of indigestion, and is removable by a table-spoonful of castor-oil with ten drops of laudanum, or by a dose of rhubarb and magnesia. Occasionally, active labour commences with a species of spurious spasmodic pains, which want the regularity of the true ones, and only teaze and exhaust the patient, who is herself conscious that they are "doing no good." In such a case, the best treatment is to administer five-and-twenty drops of laudanum, and to keep the patient perfectly quiet, so that she may sleep if possible; if she does so, in all probability she wakes in a few hours with real labour in full activity; but sometimes even sleep does not intervene, the anodyne seems at once to convert the spasmodic into the real useful labour pain, and contrary to its usual effect, actually to stimulate the progress of the case. Occasionally, when labour has reached a certain stage, pain becomes suspended without obvious cause, and continues so, for a longer or shorter period: in such cases patience is the best resource, unless the cessation of pain appears to be connected with some of the complications of child-birth to be hereafter noticed. The discharge of the waters is sometimes the first sign of the commencement of labour, or perhaps, more correctly, their discharge from imprudent exertions, such as shakes, jumps, &c., hurry on the process, which, in such cases, is often lingering. This premature discharge not unfrequently occurs, when some other portion of the child than the head is first in the birth. It being presupposed, that every female in expectation of her confinement, if inexperienced herself, will, under the advice and guidance of female friends, provide for, and make those arrangements most suited to her individual case and circumstances, as soon as the first symptoms of approaching labour exhibit themselves, the female attendants ought certainly to be summoned; but should a medical man be engaged, it is proper before sending for him, to feel assured that the process has commenced in earnest. When, sinking pains recurring regularly every ten minutes or quarter-of-an-hour, are accompanied with slight "shew," as the discharge of slimy mucus is termed, the medical attendant may be safely summoned, and he will, or ought to see to all subsequent details.

When female attendance is trusted to, these details require to be carefully and judiciously insisted upon:—

A lying-in chamber ought to be as roomy, and, whilst free from draughts, as well ventilated as circumstances will permit—see Bed-room—it ought too to have a fire-place, which it is ascertained beforehand can be used without half suffocating the patient with smoke—not an uncommon annoyance. The bed should be of such moderate height, that an attendant can conveniently give assistance to the patient. A mattress is always preferable to feathers, and curtains, as in beds generally, are better dispensed with. In addition to the ordinary furniture, a night-chair and bed-pan should be provided; and a vessel of some kind which can be used as a bath for the infant. Some waterproof material is requisite for "guarding" the bed against injury from moisture. Formerly, a prepared skin used to be the general material, but there are now many waterproof articles, quite as well or better adapted for this purpose. Sheet gutta percha answers well, and is cheap. An easy chair, a bottle for pure water, a little brandy, a fan, and bottle of smelling salts, cups and vessels, including a sick-feeder—see Bed-room—for administering either food or medicine, are all advantageous additions to the numerous little etceteras; these are, sponge, washing flannel, and starch powder; a little lard without salt, or cold cream, soft towels, and abundance of napkins or doubles; four ties or ligatures, each six inches long, and composed severally of four plies of stout linen thread; a pair of blunt-pointed scissors *that will cut*, and a flannel receiver for the infant. A little laudanum and sal volatile ought always to be at hand; but when a medical man is in attendance, he more generally carries these with him.

One female friend, and no more, in addition to the nurse, should be present at the accouchement; but it is advisable to have another female in the house, though not actually present in the room, particularly if a midwife only has charge of the case. Mothers ought never to be present at the confinement of their daughters.

As soon as labour commences, the chamber should be prepared, all extraneous articles removed, and whatever may be wanted put in order; the guard placed upon the bed, and the latter so arranged, that when the patient lies upon her left side near the edge of it, there may be plenty of room for those about her to pass and act. The patient herself ought to be encouraged to walk about, and her mind kept occupied and cheerful by conversation; light nourishment, such as a cup of tea or gruel, being given as desired, in small quantity at once; at this time too, if the bowels are at all confined, they should be unloaded by a dose of castor-oil, or better still, by an enema, consisting of a pint of thin gruel, to which a table-spoonful of olive-oil is added. As time advances, and as soon as the pains exhibit signs of "bearing down," the patient if not previously undressed, should now be so, and *the folded binder*—see Binder—*placed on the abdomen, so as to give gentle and equable support.* The patient may still continue to walk about a little, but as soon as the pains become decidedly expulsive, she must be placed in bed upon her left side, and remain so, unless raised up for necessary purposes, until the infant is born. During all this time the room should be kept moderately cool—if regulated by a thermometer, about 55° Fahr. The patient, most likely, particularly towards the end of her labour, will become extremely hot, and then the occasional and moderate use of the fan is very agreeable. She should be induced, from time to time, to take a few spoonfuls of gruel; but the stomach is not to be overloaded, and above all things, the pernicious and too prevalent custom of giving stimulants, brandy, rum, &c., is to be avoided. A case which *really* requires such aids, requires also the presence of a medical man to sanction and regulate their use; if given when not required, feverish heat, headache, thirst, general uncomfortableness, and it may be, after bad consequences, are the only results. Amid the poorer, and indeed among some of the better classes in the country, it is customary for patients to be "put to-bed," in their day-clothes; independent of the uncleanliness of the proceeding, it is not at all times free from danger, when, after the confinement is over, it becomes requisite to remove these clothes, and substitute the bed-dress; the usual excuse, that it is for the support given by the stays, is quite inadmissible when the binder is used, which amply supplies the place of the above undesirable articles; besides, the presence of the stays and clothes may seriously interfere with measures which must be taken in some particular cases, such as those of flooding. Another practice which is often followed by midwives cannot be too strongly condemned, it is that of delivery being effected with the patient kneeling on the floor; it is highly dangerous. Such attention must always be given to the bladder that it may be duly emptied, although, in most instances, the sensations of the patient herself ensure this point.

When the last strong pains of labour are expelling the head of the child, the midwife who has, or who ought to have, sufficient experience to be aware of the progress of the case, should elevate the upper knee during the occurrence of each pain, for the purpose of affording free space; this mode of proceeding is preferable to the pillow placed between the knees, which heats, and is always getting displaced. A towel or some such material is frequently attached to the bed-post or some fixed point, and many women appear to derive comfort from holding it during the paroxysm of pain; it may be permitted, if it does not encourage too great efforts at straining. The feet must be kept warm; cold feet may retard the frequency and force of the pains.

It cannot be too strongly impressed upon the minds of all, that child-birth is a natural process, and one fully competent in all ordinary cases—and in more extraordinary ones than might be imagined—to accomplish its end, safely and unassisted. And without assistance, or any attempt at assistance, it must and ought to be completed as far as female attendance is concerned.

As soon as the head of the infant is born, the attendant midwife ought to pass her fingers around its neck, to ascertain, as sometime occurs, that the navel cord is not twisted around it; should it be so, she must endeavour gently to slip it over the head, otherwise the neck may be so strongly compressed as to occasion fatal strangulation. The cord may be coiled once, or two or three times around the neck. At this period also, the mouth and nostrils of the child—if there is any delay in the passage of the body—should be kept as free as possible from the surrounding discharges, which may be drawn in by the efforts to breathe. Neither ought the body, or even the legs of the infant to be *drawn* from the mother, *their expulsion should be left to the natural efforts of the womb*, for if too suddenly emptied, its natural action becomes embarrassed, and irregular contraction, accompanied with unnecessary pain and discharge, may be the consequence. The infant being fully born, the navel cord must be tied by the ligatures, which have been ready provided; the first being placed about three fingers' breadth from the body of the child, and the other about an inch and a-half further; the intervening portion of cord being divided by the scissors. The infant now separated from the mother is to be placed in the flannel, in the arms of the nurse, and put in a moderately warm situation.—See *Children*.

In tying the navel cord one or two cautions are requisite. The first ligature must not be placed nearer the body than the distance above-named; and before the second is put on, it is well—to prevent spurting—to squeeze the blood up towards the body of the mother, out of the intervening portion. For cutting the cord, a pair of blunt-pointed scissors should be used, and care taken at the moment, that no other portion of the child is intruded between the blades; it has occurred that a finger or toe has been lopped off by a careless attendant. After the cord is cut through, the *cut extremity attached to the child must be carefully examined*, to make certain that it does not bleed, particularly if the cord be thicker than usual, in which case the tying must be most carefully performed. From careless tying and neglect, infants have bled to death from the navel vessels immediately after birth. Should the infant not appear to breathe as soon as born, it is well to delay the severance of the cord for a minute or two, whilst at the same time the mouth and nostrils are freed from all adhering mucus, and efforts are made to rouse, by blowing upon the face, or by two or three smart taps on the back. As soon as the infant is separated from the mother, it is proper to ascertain by the hand placed upon the abdomen that there is not a twin child; if there be, the remaining bulk will indicate it in a way that can scarcely be mistaken, and should it prove so, the recurrence of the pain which is to effect the expulsion of the second child, must be quietly waited for, unless hemorrhage, or some other occurrence, dictates a different course. In most cases of twin children, the second is quickly and easily born, after pain sets in.

When labour is completed, *the binder must be tightened up*, so as to give gentle and comfortable support to the now lax abdomen, and the patient left quiet until the accession of pain gives signal of the throwing off of the after-birth.—See *Afterbirth*. When this is effected, the *binder will again require slight tightening*, and a warm napkin, sprinkled with brandy, should be applied to the mother. At this time, chilliness, succeeding the profuse perspiration, is often complained of, and should be counteracted by some additional covering. The female must now be allowed to remain quiet, but *not left alone*, and so far attended to, that any symptoms of faintness, or undue discharge of blood—flooding—may be detected. If all goes well, in the course of half-an-hour, if desired, a cupful of gruel or arrow-root may be given; in the course of another half-hour, a dry, warm, open, flannel skirt, and dry napkins should be substituted for those which have become wet; by this time, everything ought to be arranged and quiet for the patient's repose.

Such are the incidents of natural and regular labour; and could we calculate upon the process following undeviatingly the same course in all cases, it might safely and at all times be left to the care of judicious and instructed females; but, as too well known, accidents and difficulties of the most formidable nature will arise, which tax to the utmost the skill and nerve of the well-educated practitioner; and with some, this is an argument why every case of confinement should be attended by a medical man—in many situations at least, a physical impossibility. As, therefore, many cases must be left to female care, the foregoing directions will, it is trusted, lead to their safer and better management, whilst those which are to follow, are intended to point out *what cases ought never to be trusted to a female attendant*, and what symptoms occurring in a case under female care, indicate the approach of such difficulty or danger as requires the attendance of the male accoucheur. As a general rule, in a first confinement, it is always desirable to have the attendance of a medical practitioner, and especially so, should the female be the subject of any deformity, such as curvature of the spine, should she in early life have suffered from any tendency to rickets, or been the subject of epileptic fits at any period of life. Also, if there exists any suspicion of heart or other organic disease. If a previous confinement has in any way been irregular, or has required instrumental or artificial delivery of any kind; if convulsive fits have occurred; or if there has been flooding, either from difficulty with the after-birth, or any other cause, the woman ought never to trust herself in the hands of a female.

When a midwife, either professed or otherwise, is in attendance upon a case, fainting coming on at any period, any symptoms of wandering or delirium, or of convulsion, any unusual discharge of blood whilst the process is going on, should at once be the signal for summoning medical assistance; also, should the labour be more than usually protracted, without obvious cause, provided the pains are *regular*, sufficiently numerous, or forcible; should the navel cord, or anything unusual, such as the infant's hand, be felt protruding externally; and lastly, if after the child is born there is any difficulty with the afterbirth—see *Afterbirth*—either with or without flooding.*

In the interval which must or may elapse in many cases before medical assistance can be obtained, should fainting come on, the female must be laid on the bed with the head on a level with the body, air should be freely admitted around her, and smelling-salts used to the nostrils, whilst brandy, or sal volatile are administered by the mouth. It ought to be ascertained whether there is any discharge of blood externally, and if so cloths, dipped in cold or iced water, are to be freely used to the lower part of the bowels. Wandering or delirium, or convulsion, must be soothed by the most perfect quiet, and by the free use of cold applications to the head, and mustard plasters to the calves of the legs; whilst if *the person be of full habit, and if the face is full and flushed*, from six to a dozen leeches are to be applied to the temples. In all cases of unusual discharge of blood, the measures recommended under the article "Abortion" are to be employed, and it must be borne in mind, that if the accident occurs after the birth of the child, firm pads composed of folded napkins must be kept firmly bound over the situation of the womb—in other words, one or two inches below the navel—and kept there whilst cold is used to the external parts. In a case of sudden and profuse outward flooding after the birth of the child, occurring in a thin individual, much may be done to arrest it, by some one instantly pressing the hand firmly and steadily upon the belly—at the navel—until the pulsation of the great main artery, or aorta, is felt, and felt as arrested by the pressure, to beat up to the hand, but not beyond it.†

It must, however, be kept in mind that alarming, and even fatal loss of blood—

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* CHILD-BIRTH.—Attention is specially directed to the remarks on the present page, indicating those cases or symptoms which imperatively demand the attendance of a medical man during the process of child-birth.

† CHILD-BIRTH.—Women of full florid habit have more tendency to flooding, especially internally, than those of spare make.

internal hemorrhage as it is called—may be going on within the womb, and yet be unmanifested by any outward flow, the first signal of the mischief, probably, being faintness. and if the abdomen is now examined, it will be found to have enlarged more or less since the birth of the child. This dangerous condition requires the most energetic and well-directed efforts of a medical man to save life, and not one moment should be lost in procuring the assistance. In the interval, the binder well spread over the bowels, and two or three folded napkins placed underneath it, to assist the pressure, is to be tightened well up, and in addition, firm pressure must be exercised with the expanded hands of an attendant on the outside of the binder. By this method, the ordinary attendants will do more to retard the further filling of the womb with blood; at the same time cold is to be used to the lower part of the bowels, and stimulants given sparingly. The medical man, on his arrival, will take much more active measures which could not properly be employed by others. The above dangerous accident of the lying-in chamber will sometimes occur in spite of every care, but it frequently results from bad management, such as too sudden emptying of the womb by abstracting the child, instead of allowing the natural efforts to accomplish the entire process; by impatience with the after-birth, neglect in putting on the binder insufficiently, or not at all, or by moving too soon after delivery. The existence of cough has a tendency to promote its occurrence. The occurrence of internal flooding is sometimes indicated by *continued* pain complained of in the bowels or back, different from the usual intermittent after-pain.

Lastly, whatever accident may occur in the lying-in room, it should be the endeavour of those around to avoid the excited hurrying, which too often seeks to do everything, and does everything but what is right. This is one reason at least why it is proper to exclude all but the necessary attendants, and especially mothers, from the scene; they communicate their own alarm to the patient, and aggravate the danger, if it exists, by so doing.

When a female has enjoyed a few hours' repose after her delivery, if the bladder has not been relieved, it should now be so; a little light nourishment, such as gruel, taken, and *the infant applied to the breast, whether it appears to contain milk or not.*—See *Breast.* If the confinement be a first one, the after-pains will scarcely give trouble. When they are severe, twenty drops of laudanum may be given in a little water. —See *After-pain.* Perfect quietude is to be observed.

It is not probable that the bowels will act of themselves, particularly if opium has been given; it is therefore right on the morning of the third day after confinement to give an aperient. Castor-oil is almost universally prescribed; but when the person is of full habit, and if there exists any tendency to fever, a common black draught is preferable. After the bowels have been moved, the patient, if going on well, is to be allowed an improved diet; a little meat soup, or light pudding; and now, provided it can be done without putting the person in the erect posture, the bed may be made, and the night-clothes changed. After the fourth day, according to the state of the patient, a little solid animal food is to be allowed; but stimulants, whether immediately after the confinement, or during the period of convalescence, should never be taken unless for some special reason, such as great debility. At the end of the week, if all goes on well, the female may get on the sofa, towards the tenth day begin to get her feet to the ground, and gradually return to her usual mode of life. During the whole of the convalescence, there is no greater comfort, or more salutary practice than the free use of tepid water, so as to preserve the strictest cleanliness; by the use of gutta percha sheeting, drawn under the patient, it may be fully employed without wetting the bed.

When a confinement has been a moderately favourable one, if the foregoing directions are attended to, there are few cases that will not progress regularly to complete convalescence; it is true, that among the poor some of the means and conveniences cannot be carried out or procured as fully as could be wished; but the most essential, fresh air and cleanliness, are mostly at command, and might be more freely taken advantage of than they are, and in all cases something like moderate care ought to be observed—which is too often not the case. As regards comforts and conveniences, in no way can the charity of the more fortunate be applied to the relief of their poorer sisters, than in the provision both of linen, lent—and diet, bestowed, suitable to the time of trial, when poverty is often so severely felt.

But recovery after child-birth does not always preserve the smooth course. The accession of the milk may be accompanied with feverish excitement. This, if not extreme, is to be allayed by means of aperients, castor-oil, black draught or seidlitz powder, and effervescing saline draughts, to each of which may be added five grains of nitrate of potassa. Within the first few hours or days after delivery, the woman may be attacked with shivering, or rather shaking so severe as to shake the bed, succeeded by heat of skin, thirst, delirium, and with or without severe pain in the bowels; she is attacked with child-bed fever, and cannot be too quickly seen by a medical man, in the meantime, the diet must be kept at the lowest ebb; if time must elapse before efficient aid can be got, there should at once be given a pill composed of one grain of opium and five grains of calomel, and this repeated regularly every six hours; if pain is severe, a dozen of leeches at least, if they can be procured, must be put on the abdomen, and if not, *light* hot bran poultices continually applied. If the bowels have not been moved, they must be opened by an enema of gruel and castor or olive-oil. The thirst is to be relieved by toast-water freely allowed. But the above active measures are not to be the substitutes for a medical attendant; the attack threatens life, and may require all that skill can do for its removal; if only a few hours are likely to elapse before aid is procured, the poultices, a single dose of calomel and opium, and the enema, should only be resorted to.

If a woman, at any time during the first few weeks after her confinement, becomes excited and talkative, if she wanders slightly, if the eye becomes restless and wild-looking, and if sleep is absent, she requires immediate attention, for an attack of child-bed mania is probably impending. A medical man should be immediately summoned. In the meanwhile, the most perfect quiet is to be preserved around the patient, who should be placed in bed, in a room with the light slightly shaded; cloths dipped in cold or iced water are to be applied to the head, the feet kept perfectly warm, and the bowels, if confined, opened by a gentle aperient, but not purged. This, perhaps, is all that it is desirable should be done before the case is seen by a professional man, but on an emergency it may be requisite, without this aid, to resort to the use of opium—Battley's sedative solution is the best—of that ten drops, or of laudanum fifteen drops, along with a grain of ipecacuanha powder, should be given in a little water, every half-hour, till quiet sleep is procured, or till at least four doses of either of the above have been administered.

Occasionally, shortly after labour, the skin of the patient becomes covered with a "miliary" eruption, consisting of numberless points resembling minute blisters. This is generally the result of over-heating or stimulating, and was much more frequently met with in former times than now, that a more cooling and rational system has been adopted.

The principles to be kept in mind in the domestic management of child-birth, by those in attendance are:—To have everything in order and ready at hand; to exclude all useless attendance; to encourage the mind of the patient; to preserve the moderate temperature of the room, and its free ventilation; to abstain from giving stimulants, and from loading the stomach with food; to have the bowels clear; to avoid all meddling interference; to summon medical assistance on the first appearance of anything unusual; lastly, let the patient be assured, that the process, though a painful, is a natural one, and He, who has ordered its marvellous arrangement and adaptations, will be present in the hour of travail.

CHILD.—Infancy.—Childhood.* The period of childhood, including infancy, may be said to extend from birth to the thirteenth or fourteenth year, and truly may it be said, that the child is the father of the man, for upon the original constitution, and upon the physical and mental training of this most important epoch of human life, depends in great measure the usefulness, and consequently the happiness —it may be the eternal welfare—of the future man and woman. The subject of the management of childhood, all-important as it is, can, however, be but briefly treated of in a work like the present; and the reader who wishes further information than is to be found under the head of this article, is referred to the admirable work of the late Dr. Andrew Combe.

Infancy.—*Continued from Childbirth.*—When an infant is born, should it, in consequence of protracted labour or some other cause, not draw breath, and appear purple on the surface, it is advisable in the first place to pass the end of the finger, covered with a piece of thin calico or linen, into the mouth, for the purpose of clearing away the stringy mucus which not unfrequently obstructs the passage of air into the lungs. If, under these circumstances, the navel cord continues to pulsate, it should not be tied for at least two or three minutes, during which efforts are to be made to rouse the child, by blowing sharply on the face, or by one or two slight slaps on the back; at the same time an attendant ought to be getting a warm bath—temperature 98° Fahr.—in readiness. If, after the lapse of time above mentioned, animation still seems suspended, the cord should be tied without further delay, and the infant at once removed and placed in the warm water up to the neck, the body being well supported, and the mouth and nostrils carefully kept from being accidentally submerged. The mouth and throat having been cleared from obstructing mucus as above directed, some one, whilst the nostrils of the infant are closed, should, by placing their mouth over that of the child, endeavour to inflate the lungs with their breath, and then withdrawing the mouth, to empty them by pressure exerted upon the abdomen and sides of the chest. The direct effort to inflate the lungs having been repeated a few times, the artificial respiratory movements—alternately pressing upon the ribs and abdomen, and allowing them to recover by means of their own resiliency—should be persevered in for a considerable period. In these cases of suspended animation in infants, electricity is unquestionably a powerful restorative; but hitherto the difficulties attending its ready application just at the moment, have rendered it almost unavailable; now, however, the newly-invented electric chains of Pulvermacher will probably place in the hands of the accoucher, and, from their simplicity, even of others, a readily applicable source of the above powerful stimulant. See *Electricity.*

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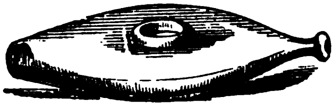
* For additional information on the treatment of Infancy or Childhood—See Appendix.—Article, Child.

When an infant exhibiting full signs of life is separated from the mother, and placed in the flannel receiver, it must not be covered up too closely—the caution is not superfluous, for infants have actually been smothered in this way by the extra carefulness of the nurse; it must, too, be placed where it will be warm. As soon as the child can be attended to, it ought to be examined all over, to ascertain whether it be perfectly formed; and the tying of the navel cord should be seen to be secure. Washing with warm soft water—temperature 98°—soap, and soft flannel, is the next requisition. The skin of a newly-born infant is covered with a white unctuous matter, which is to be removed; this should be done as gently and effectually as possible, without fraying the skin, the arm-pits and other folds of the body being particularly attended to. The child, after being washed, is often dried upon the receiver, placed on the nurse's knees; a better plan is, to have placed on the lap a moderately soft pillow, covered with two or three large warm napkins, on which to lay the child. The drying, which should be done in cold weather, at a moderate distance from a fire, having been effected gently, without scrubbing, a little starch powder should be dusted into the folds of the groins and arm-pits, but not elsewhere, unless the skin appears frayed. The portion of the navel cord remaining attached to the child, is now to be wrapped in a piece of soft linen, which is kept in place by a binder of fine flannel, five inches wide, and long enough to pass twice round the body of the child, so as to give support without pressure, and fastened by needle and thread—not by pins: *if too firmly applied the respiration of the infant is interfered with.* The remainder of an infant's clothing is so much regulated by custom and other considerations, that it is unnecessary to mention it here, further than to impress the rule that it should be perfectly loose and easy, and fastened entirely by tying or sewing. A cap should never be placed upon a child's head, which is naturally hot enough to do without artificial covering. When the infant has been dressed, it should be laid to rest in the cradle, or place prepared for it, perhaps beside its mother, but at all events where it will be sufficiently warm. It will probably sleep for some hours. It ought not to be fed for the first few hours after birth. As too frequently practised, the unfortunate baby is dosed with "rue tea," "sugar and butter," or some such mess, or stuffed with soaked bread or gruel, and the first foundation laid of the disordered bowels, wind, screamings, &c., &c., which are so general in young infants. When the infant wakes from its first sleep, or, at all events, in the course of four or five hours after birth, it should be put to the breast; even should there not be sufficient secretion of milk to satisfy the child, it is well both for it and the mother, that it should be thus early induced to take the nipple. If, as may occur, the milk-flow is delayed, it will be necessary to give the infant the artificial support of cow's milk, unskimmed, but diluted with nearly half water, and very slightly sweetened, this may be given, either from a common nursing bottle, or by means of a spoon, but the former is preferable. On no account should anything like bread, gruel, or the like be allowed to pass the lips of a newly-born infant, unless under the pressure of extreme necessity, such as might happen on board ship, and then, the powder of grated biscuit, or of twice-baked bread, softened in water, is the least hurtful substitute. The first milk of the mother is thin and serous, and is generally considered to exert an aperient action upon the infant's bowels, by which the slimy olive-green discharge named "meconium," which first occurs from them, is carried off. Should the bowels not act within twenty-four hours after birth, from six to eight drops of castor-oil should be given, mixed with a small quantity of moist sugar. Should this have no effect, it may be repeated; but should the infant appear to make the straining effort to relieve the bowels, without its being effected, the vent ought to be carefully examined by a medical man, as it may happen that closure of the bowel, complete or partial, exists, but which may, nevertheless, be remediable. The case is not common, but its possibility is not to be forgotten.

The majority of mothers are able, and ought, as a sacred duty, to nurse their own infants; but cases occur in which, from illness succeeding the confinement, or from general weakness of constitution, a female is unable to do so, either with benefit to herself or the child. When she cannot, it becomes a serious question, whether the duty of nursing is to be devolved upon another, or whether the infant is to be brought up by hand. The general voice says the former, the author confidently asserts that the latter is preferable. In the first place, it is requisite to provide a nurse, whose own infant is of the age, or nearly so, of the infant to be wet-nursed; it will not do to put a young infant to the breast which has been nursing for many weeks or months. This is the first but the lightest difficulty. But there is a much more serious consideration. We have yet to learn the full measure of influence, both *physical* and *mental*, which may be exerted upon the child by the peculiar physical and mental constitution of the foster-mother from which it draws its first nourishment. It is true the physical development is generally rigorously scrutinized, but how are passions and mental tendencies to be measured, and we do know that the class from which wet-nurses are often selected, are certainly not in the habit of controlling their appetites and passions; and farther we know, that the physical qualities, at least, of the milk, are very liable to be affected by the mental emotions of the nurse; here at least is one source of danger, were we sure, which we are not, that there is no deeper, more lasting, life-felt influence exerted. And withal, it is quite possible, that some physical taint, venereal perhaps—it has happened and may happen—has escaped the searching examination of the selecting physician. These are all serious considerations for a mother before she submits her child to draw its first nourishment from the body of a stranger, one too, who must either be suffering from the intense grief which every mother feels who loses her infant from her breast, and whose milk must be affected by that grief, or who must have been compelled by poverty, and all its physical evils, to undertake the task; or one whose mental constitution is so unscrupulous, that, without necessity, she will consent for gain, to cast aside her own infant, and, at the risk of its welfare, give its *birthright* to a stranger. Are any of these the qualifications which a mother will choose for the nurse of her child, even if she has the selfishness to tempt another to desert her own legitimate offspring. Medical men often witness the painful sight of one infant declining away, whilst the mother is nourishing another into strength. The system and importance of wet-nursing has been much over-rated; for it is perfectly possible, if *the care and trouble requisite will be incurred*, to bring up a child by hand, as well and healthily as at the breast of *a foster-mother*. Care and trouble it does involve, but if these are grudged, the child had better go to its grave at once.

In bringing up a child by hand, milk must be its only nourishment for the first three or four months. Ass's milk, or goat's milk, may be employed, but more generally cow's milk will be used, either with or without the cream removed, according to its richness, and according—as the first few days' experience will show—to its effect upon the infant. The milk is to be diluted with one-third water, and just perceptibly sweetened.[*] It is not to be given by spoon, but by means of a common nursing-bottle, which should always be of glass,—see fig.,—of these bottles there should be two, both on account of accidents, and also, that the unvarying and essential cleanliness may be observed. Without the most scrupulous care—and on this depends the success of bringing a child up by hand—the purity and wholesomeness of the food cannot be preserved. The milk and water should be mixed fresh, at least twice a-day, and, in summer, kept in vessels immersed in cold water; it is to be given to the child at nearly the temperature of the body—about 96°. The food is to be sucked from the bottle,



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[*] In some instances whey, with the addition of a fifth or sixth part of cream, slightly sweetened, will answer better than milk. In all cases it is better to use sugar of milk in preference to ordinary sugar in the food of infants. For additional information respecting children's food, Feeding Bottles, Artificial Nipples, &c.—See Appendix,—Article, Child.

and much care is requisite in the management of the artificial "sucks" which are used for the purpose, and which are of great variety; they are made of silver, caoutchouc, prepared teats, wash leather, parchment, linen, muslin, &c. Whichever material is preferred, it should, without being too impervious, occasion the infant some exertion to draw the milk through it, if it does not, the child is apt to over-fill the stomach, and loses the exercise which it has when it draws its nourishment from the breast of the mother. Silver is generally too hard for the gums, india-rubber sucks of excellent quality are now made, or wash-leather or parchment, or double linen, or muslin, will be found convenient, according to the strength of the infant. Whichever is used, it must be made up into the form of a cone, or like a small jelly bag, with a piece of sponge about the size of a large pea, to give a little substance, fastened inside by one or two stitches passed through. The suck must then be *firmly* tied to the end of the feeding-bottle, *and will require changing every day*, otherwise it becomes sour-smelling and unwholesome, independent of which, wash-leather thickens and becomes impervious, and the other materials are apt to wear through. Again it is repeated, that the most thorough cleanliness, in milk-can, bottle, suck, is to be observed, and *must, except in rare instances, be a mother's care*. Another caution is requisite. In feeding children from the bottle, careless nurses may frequently be observed to incline it the wrong way, so that the infant goes on for a time sucking wind. For the first three or four months this milk and water food is *all* that is requisite, with the addition, if at any time the bowels should be too much relaxed, of a portion of isinglass, from one to two small tea-spoonfuls dissolved in the half-pint of fluid. About the fourth or fifth month, a small portion of arrow-root or wheat-flour may be boiled in the water before it is added to the milk, and about the seventh or eighth month, the spoon may be used to give some of the more solid milk and farinaceous preparations. In bringing up by hand, the child will, as at the breast, require feeding about six or seven times in the four-and-twenty hours, for the first three months at least, about six table-spoonfuls, or one ounce and a-half, on the average being given at once, at first, and the amount gradually increased. Small delicate children, however, will scarcely take half the amount above stated, and great care must be taken, both with them and others, not to allow the stomach to be over-loaded. If an infant is habitually sick after feeding, the quantity allowed at once must be reduced, for, though happily the infant stomach relieves itself easily of superfluous food, it is better to avoid the superfluity, than trust to the sickness, notwithstanding the popular fallacy that sickness is a sign of infant health.

The system of rearing by hand is much more prevalent in some parts of Germany than in this country. The following passage from the work of Dr. Andrew Combe, the substance of which he says he derived from the German work of Dr. Von Ammon, is so full of practical instruction, that the author makes no apology for quoting it at length :—

"In some constitutions, however, cow's milk does not agree when merely diluted and sweetened; but answers perfectly well when a large proportion of water and a small quantity of any well prepared farinaceous substance is added. In this case, it is a common custom in some parts of Germany to dilute the milk with a weak infusion of any light aromatic, such as linden-tree flowers, instead of pure water. But after the first month or two, where diluted milk does not agree, a small proportion of well-boiled arrow-root, grated Dutch rusk, or well-baked or toasted bread, sometimes forms a very useful addition wherewith to thicken the milk to the consistence of thin gruel. Briand, indeed, remarks that milk diluted and boiled for a length of time with any light farinaceous substance, is more easily digested by some infants than pure milk: and that when the use of milk alone is followed by white and curdy evacuations, a change to a *bouilli*, made of milk and farina, often restores them to a healthy colour and consistence. For this reason, he recommends panada, made by boiling for a length of time in water, or milk and water, thin slices of bread, previously well dried in the oven. Another of which he speaks highly, is the *crême de pain*, made by infusing in water for several hours well-baked bread, previously dried in the oven in slices, and boiling it gently for some hours more, adding water from time to time to prevent it becoming too thick. It is then strained and sweetened, and a few drops of orange-flower water are added. For infants a few months old, arrow-root, sago, or semolina, may be used in the same way. The *bouilli* in common use in France as the first food of infants, is made by gently roasting the best wheat-flour in an oven, then boiling it for a considerable time, either in water, or in milk and water, and adding sugar to it. When carefully made, not too thick, and free from knots, it is considered an excellent food, especially where the use of milk excites a tendency to diarrhœa, or colicky pains. On changing to the *bouilli*, the digestion immediately improves, and the evacuations become healthy and unattended by pain.

"In some instances, especially when the bowels are sluggish, barley-water or thin gruel, with or without the addition of weak chicken-tea, or beef-tea, answers best; and the grand rule ought to be to follow what seems best suited to the individual constitution. In soft flabby children, the chicken or beef-tea is often most useful; while in thin, active, and irritable infants, the milder milk and farinaceous diet answers best. But in trying the effect of any alteration, we must not be too rash, and because no advantage is apparent within a day or two, conclude that therefore it will not agree. In many instances, the effects of a partial change of diet shew themselves so gradually, that it is sometimes only after an interval of a week or two, or even longer, that we can tell positively whether benefit will result from it or not."

When the infant is to be nursed at the breast of its mother, it ought, as above directed, to be put to it, unless some cogent reason forbids, within six hours after birth, and from that time it will require it every three or four hours for the first few months. It may be requisite, either from weakness of the child, or some other cause—see *Breast*—to have the nipple drawn out either by a stronger or older infant, or by some other means. Should the mother not be able to nurse her infant entirely, the extra feeding must be conducted upon the rules laid down for bringing up by hand.

The *first few weeks of an infant's life* are spent principally in sleeping and taking nourishment, movement is but little indulged in, and consequently the power of sustaining the animal temperature is but slight; for this reason care is always requisite that sufficient heat be preserved, both of clothing and of situation, during the day, and by the infant sleeping with its mother or nurse during the night, for the first few weeks of its life at least. Equally important with temperature, nay even more so, is the purity of the atmosphere which a young child breathes; errors in this respect have led to the most deplorable loss of infant life. One instance is sufficient to illustrate the point: it is the well-known one of the Lying-in Hospital of Dublin, in which, at one period, one child out of every six died within the first fortnight of existence, but by the adoption of proper means of ventilation, this very great mortality was at once reduced to one death for every nineteen or twenty children born. It is unnecessary here to repeat what has been said in the article, "Bed-room," upon the means of ventilation, &c., and to that article the reader is referred. The *cradle or bassinet* in which an infant sleeps should not be smothered up with curtains, and it is better, for some time at least, without sheets, light blankets only being used.*

The mattress should be hair if possible, but where economy is requisite, cotton-wool will answer the purpose; it should be protected from wet by means of waterproof material of some kind. A pillow too large and soft is not advisable, for by allowing the head to sink into it, an injurious amount of heat and perspiration is promoted, and the child rendered susceptible of cold when taken up. The skin of an infant requires the most scrupulous care; by its powerful agency it frees the body from matter which must be noxious if retained, and which is especially apt to act injuriously upon the susceptible infant nervous system. The skin ought to be washed with tepid-water and soap, night and morning, and after each washing, reaction promoted by gentle friction with the hand for a few minutes. Care must always be taken that the situation for washing is sufficiently warm, but not, as too often the case, before a scorching fire; draughts of air are especially to be guarded against. Before leaving this subject, it is requisite to notice the filthy custom prevalent amongst the poor, of allowing the scurf, the oily secretion, and the dirt, to cake upon the skin of the head, under the idea that it preserves from cold. The habit is not only disgusting, but is productive of disease—perfect cleanliness is as requisite here as elsewhere.

In fat children, the creases or folds in the skin require extra attention, from the liability of the opposed surfaces to become inflamed, and to pour out an irritating moisture; dusting with starch-powder, or the intervention of a piece of soft linen spread with simple cerate, may either of them be used as a remedy. *The portion of navel cord* which is left attached to the child, will require attention. This separates by a kind of moist decay; it may come off entirely by the fourth day, or take a fortnight to do so; it must never be hurried. Generally, when the navel separates, it leaves the puckered closing of the skin perfectly complete, it sometimes, however, occurs, that bleeding or inflammation and ulceration take place at the time of separation; such cases ought at once to be placed under medical care. When actual bleeding occurs, the condition is all but hopeless. When the opening at the navel does not thoroughly close at birth, protrusion of a portion of the bowel takes place when the child cries This state of things, apt to occur when the cord has been of more than average thickness, requires much attention, as the comfort and safety of the individual, especially of a female, in after life, may be considerably interfered with, if the malformation is not, as it may be, cured in childhood. The belly-band, or binder, has of course considerable power in preventing the protrusion through the navel opening; but in these cases it is not sufficient; and for the first few weeks, one or two graduated compresses, made of folded linen, should be placed over the navel, underneath the binder; and when the child is a month or six weeks old, the following apparatus must be used:—From a cork, the diameter of which is about half as large again as that of the protrusion, a slice the eighth of an inch thick is to be cut, flatly padded, covered with linen, and affixed to two cross pieces of plaster by stitching—see fig. The plasters being warmed before application, are used to retain the padded cork directly over the opening of the navel; above all, the binder is applied. The plasters will probably require renewal every few days. It is better to trust to the linen pads alone, as long as any tendency to inflammation of the skin exists, using at the same time, a plaster of simple cerate or gold beater's leaf next the skin. Instead of either linen or cork pad, one of vulcanized india-rubber, filled with air, might be substituted.* The treatment of navel protrusion, or hernia, in infants, and the management of the apparatus, involves some amount of care and trouble, but not more than the necessity and importance of the evil demands for its rectification. In such cases, the infant should be kept from crying by all reasonable means, the best preventive being the careful attention to the rules of health laid down in this article.

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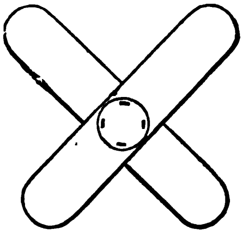
* The recently invented bed-covering, known as the "Torallum," is admirably calculated for the cradle or bassinet, being at once perfectly warm, and extremely light. The price, though not high for the article, is perhaps too high for the poor generally.



Rupture at the groin may occur in children at birth, and may be suspected to exist, when unusual fulness or swelling is observed in this situation, and if the fulness and tension is increased when the child cries, the case should at once be seen by a medical man

Any malformation with which an infant is born, ought as soon as possible to be submitted to the judgment of the surgeon, so that he may have full opportunity of fixing the appropriate time for its rectification or removal. The operations for hare-lip, distorted joints, such as club-feet, are now performed at a much earlier period than they used to be formerly. In the case of vascular naevus, or mother-mark, which often increases rapidly from a mere perceptible point to a large size, surgical interference as early as possible is most important. These naevi are composed of so thick a network of capillary vessels as to be almost spongy, and should they be accidentally wounded, bleed freely, and if of any size dangerously; they vary in colour from bright red to purple; if the finger be pressed upon a naevus, it becomes emptied of blood, and pale; but the instant the pressure is removed, the blood, and consequently the colour instantly return. There are various methods employed for their removal; but the one used in each case must depend upon the surgeon, a simple, painless, and frequently successful mode of cure, is vaccinating upon the naevus, which is cured by the inflammation which takes place in the progress of the cow-pox. The possibility of this being done is an additional reason why the disease should be seen as early as possible by a medical man. The continued use of the compound tincture of iodine to a naevus, the surface being painted over with it night and morning, will, sometimes, *if perseveringly adhered to*, be successful in removing it; the application being intermitted for a few days should the skin become sore.

Tongue-tying in infants is not uncommon; it depends on too great prolongation of the "frænum," or bridle which retains the tongue in place. It is easily rectified by a snip of the surgeon's blunt-pointed scissors.

The time at which an infant may first be taken out of doors after birth, must depend, of course, greatly upon the time of year; in fine warm summer weather, in the course of ten days or a fortnight, it will be safe to make the change; in winter it can scarcely be prudent to do so for a month or six weeks, and then only on a fine day. In either case, free exposure in the house should first be practised, the first airing should not extend longer than twenty minutes, and the eyes, especially at first, must be shaded from the glare of the sunlight: of course, either the chill of morning, or the damp of evening, must be avoided. A young infant should not be taken out during the prevalence of east wind.

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* Elastic belts for the treatment of protrusion at the navel may now be procured at the surgical bandage makers. In many cases they answer well, but in some the cork pad, attached by the plaster-slips, as above directed, succeeds better.

The principal ailments, likely to come under domestic management, to which infants are liable, are thrush, red gum, colicky-pains in the bowels, and diarrhœa. For the first—thrush—the reader is referred to the article "Aptha." Red gum is a mild species of "papular" eruption, to which many children are subject soon after birth. It is quite devoid of danger, and requires no treatment if the bowels are in good order, if not, a dose or two of castor-oil may be given. The usual friction after washing must be moderate during its continuance. Inflammatory swelling of the breasts in infants is not unfrequent.—See *Breast*. Most infants are troubled, more or less, with wind, or colicky pains in the bowels, and not unfrequently with diarrhœa, but these are much aggravated by errors in feeding so universally prevalent, particularly among the poorer classes; sometimes when the child is nursed entirely at the breast, particularly of a wet-nurse, they are caused by the nurse's transgressions in diet. Attention to the rules already laid down under the head of feeding, will greatly prevent the above ailments; but when they do occur, they must be rectified as simply as possible, but never by the dangerous and baneful quack carminatives so extensively sold and used. Pain, and wind in the bowels in children, are generally connected with superabundant acidity; for the correction of the cause and its consequences, either of the two following mixtures may be used moderately, both with safety and good effect.[*] No. 1.—Take of calcined magnesia twelve grains, dill water one ounce and a-half. No. 2.—Take of prepared chalk ten grains, dill water one ounce and a-half. Of either of the above mixtures, a small tea-spoonful may be given, and repeated if requisite. The first, or No. 1, is to be selected, should the bowels be at all confined: the second, No 2, should they be too relaxed. It is not recommended that either of these medicines, simple as they are, or any others, are to be given too freely to infants, and on every slight occasion, but it is better to give them than to allow a child to suffer; *they, or something similar, ought to be the substitutes in every nursery for the secret quack nostrums.* It is true they will not either as quickly stop pain, or sleep a child, as mixtures which contain opium or poppy syrup; but they cannot, like them, either put it into its last long sleep by an over-dose, or injure not less fatally, when frequently used, even in small doses, by gradually disordering the brain and nervous system. When either of the mixtures above recommended are given to children, or indeed whenever magnesia or chalk is given habitually, it is always prudent to give an occasional dose of castor-oil, as cases have occurred in which concretions of the above antacids have accumulated in the intestines. The dose of castor-oil for a young infant may be from ten drops to half a tea-spoonful. In cases of diarrhœa, should the affection be slight, and the infant be a hand-nursed one, the addition of isinglass to the milk food will, in most cases, stop the tendency at once, particularly if assisted by a few doses of mixture No. 2, and by a warm bath for five or six minutes, at a temperature of 98°, *regulated by a thermometer.* Should the affection be more severe, the emulsion of castor-oil with yolk of egg—see *Castor-oil*—must be given. To one ounce and a-half of the emulsion, made with a tea-spoonful or drachm of castor-oil; two drops of laudanum are to be added, and one tea-spoonful, or twelfth part, given once in six hours. And here the opportunity is taken, to warn, respecting the administration of opiates to children. They are most susceptible of the influence of the drug, and accidents are continually occurring—more frequently perhaps than comes to light—from its effects: a single drop of laudanum has been known to prove fatal to a young infant. The above treatment is given, not as an inducement for parents, who can readily procure medical aid, to take the treatment of their children, when ill, into their own hands, but it is because it may be of service in situations when skilled assistance is not readily procurable. Many of the diseases of children commence insidiously, but after attaining a certain stage, run their course rapidly. No parent, therefore, who either values his child's life, or his own peace of mind, should delay procuring medical assistance when real illness shows itself; but at the same time, the very same reason ought to induce every parent to inform himself upon the nature of the symptoms which most generally usher in real illness in children, and also, how and by what means the illness which these symptoms indicate, is to be most effectually retarded and obviated. More upon this head will be given when the diseases of childhood generally are touched upon. *Within the first five months of an infant's life, vaccination ought to be performed*, that is, before the constitution is liable to suffer from the irritation of teething. See *Vaccination*.

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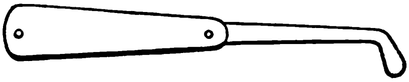
[*] To either of these mixtures twelve minims of Chloric ether is a useful and also pleasant addition.

The period of teething varies extremely, and not less so in the manner in which it affects children. For information upon the mode in which the teeth are developed, the reader is referred to the article "Teeth." Some children cut the two front teeth of the lower jaw—which always appear first—as early as the fourth or fifth month, whilst others, apparently equally strong, do not have them developed within the year. The usual, and popularly received sign of approaching tooth-cutting, is watering of the mouth, but this may continue for many weeks before the teeth appear. Before the teeth come through, the gums flatten on the top, look semi-transparent and full, and are sometimes extremely swelled and inflamed. The constitution of the child always sympathises more or less with the cutting of the teeth, most simply and beneficially so by the occurrence of mild diarrhœa, which is always—unless it goes to an undue extent—a safeguard, and is better not interfered with. When the gums are much swollen and inflamed, and must be very painful, the susceptible brain and nervous system of the child is strongly and injuriously affected by the irritation. The little sufferer is fevered, flushed in the cheeks, and peevish, sleep is disturbed with moaning and starting, and the fingers are constantly in the mouth, or the lower jaw is moved from side to side. In such cases, lancing the gums *thoroughly*, warm baths, and aperients if the bowels are not relaxed, are *the* remedies, the first especially, without which the others are useless or nearly so. The popular idea, that lancing the gums is beneficial, by assisting the passage of the teeth through them, is quite erroneous, and may lead to an erroneous method of performing this simple little operation, which every parent who lives at a distance from medical assistance, and particularly in emigrant life, ought to know how to do. The real benefit is derived from the relief which the incisions afford to the tense and distended gum, and from the slight flow of blood which follows, and on this account it is advisable, not only to cut the upper surface, but also the side of the gum, so as to divide the vessels freely. The operation is most conveniently and safely done by a "gum lancet" made for the purpose—see fig.—but a common penknife may be employed on emergency, the blade being wrapped with a piece of linen, to within a short distance of the point, to prevent any chance cut to the lips. It is superfluous to describe this simple proceeding, *it should be seen done once*, or at least the method shown. It is not recommended, of course, that the gums are to be lanced for every slight irritation of teething, but when the child exhibits the graver symptoms above described, it ought to be done at once, and, if requisite repeated again and again. In addition to lancing the gums, a warm bath for ten minutes will be found eminently serviceable in soothing the irritated system, and aperients should be given—a couple of grains of grey powder at night, followed by a *small* tea-spoonful of castor-oil in the morning, or if stronger action be thought requisite, a powder composed of one grain of calomel to two of powdered scammony is to be given at bedtime to a child of six or eight months old. If the irritation attendant on teething produces convulsion, medical aid *must* be had as soon as possible, and in the meantime, those remedies employed which are suitable. See *Convulsion*.



In judging of the diseases of children, it ought to be borne in mind that the pulse of an infant is always quick, averaging from 120 to 130 in the minute, and that at the end of the first year its average is still considerably above 100. See *Pulse*.

The regulation of the exercise of young children is of much importance. At first, the mere respiratory movements, occasional crying, and the effort of sucking, are exercise sufficient, if *gentle* nursing movements be employed; but gentle they must be; the system so often adopted of jerking infants about is much to be condemned, and may be extremely hurtful. In the course of a few weeks after birth, the infant begins to show signs of increased power of movement, and evidently experiences physical pleasure in the exercise of its limbs; as time goes on, its next effort is to sit up in the nurse's arms, till, if a vigorous healthy child, at about fourteen months, generally, it tries to walk;—all these movements will come spontaneously to the child, when its frame and muscular powers are adequate to the exertion, but they *should never be forced.* It is astonishing what an amount of practical ignorance prevails on the above point; children are put to sit in chairs, held upon their feet, or put in go-carts of various construction, long before the bones are fit to bear the weight, and curved spines and distorted legs are the consequences. Again, it is repeated, every advance of the child towards walking and the upright posture, can only be safe when spontaneous. When a child first commences walking it must get falls, but it is surprising how little material injury the head, which most generally suffers, seems to receive. At the same time, in families in which tendency to head affection exists, extra care must be taken—a padded band round the head is a useful and frequently used protection.

When a child begins to walk, and to attempt to talk, the period of infancy may be considered as ended, and childhood begun. Many of the directions applicable to the former are equally so, in a modified degree, to the latter, and *vice versâ;* but "childhood" requires further remark. When distinct nursing is no longer requisite, the child becomes more truly the inhabitant of *The Nursery,* and much of its health and happiness for the next few years of its life, will depend upon the proper regulation of this important department of the household.

Whatever is said respecting the necessity for pure air, and proper ventilation, either in this article or in any other, such as "Bed-room," applies of course to the nursery, or rather nurseries; for every parent, whose means will admit, should provide a night and a day nursery for his children, and in neither, should such operations as washing clothes, cooking, &c., &c., ever be carried on. The double room will allow of all necessary airings, washings of floors, &c., to be perfectly carried out without the health or comfort of the children being interfered with. Should one nursery only be available, the children should be taken out of it as soon as possible after rising in the morning, the windows thrown wide open, and all necessary cleaning performed before they again enter it, and, both now, and at every period of the day, all kinds of slops removed. Should any action of the bowels take place during the night, the receptacle should be put out of the room at once. The observations respecting the sanitary regulation of the nursery, are more particularly applicable in the case of the middle classes, who want the abundant accommodation of the wealthy, and whose children, in towns at least, do not have the same free access to the open air, as those of their poorer neighbours. *The situation of a nursery* in the house is important; it *must,* if possible, be in the upper stories, it should have a south aspect, and be abundantly supplied with light—the latter is a most necessary consideration. A guarded open fire-place is the best means of warmth, and the heat, *regulated by a thermometer,* should be kept as near 60° as possible.

But however salubrious the nursery arrangements, children must have as much open air as possible; when the exercise can be taken as play, in summer, upon the grass, or otherwise, it is quite the most beneficial; when weather and other considerations forbid, and walking is had recourse to, it must not go to the extent of real fatigue. At all times it adds much to the beneficial effect of exercise if the mind be engaged pleasurably in it,—and therefore, all active plays, either in-doors or out, are preferable to the mere walk, which few children enjoy. The clothing during the whole period of childhood, in a changeable climate like that of Britain, requires much attention; woollen texture next the skin, both winter and summer, is indispensable for health; during the former season, it should cover the chest and abdomen, and come at least half way down the thighs; in the latter, it may be a lighter material, and not extend so far over the chest; woollen stockings extending over the knees ought always to be worn in winter, and at all times should the entire clothing be such as will keep the surface of the skin comfortably warm; there is no greater or *more fatal* error than that which exposes children lightly clad to the influences of our variable climate, with the view of hardening them.

Thorough purification of the skin must be maintained. A child should be washed all over with soap and water at least once a-day. In the case of strong children the water may be cold, in the weaker, tepid, and in both friction with a tolerably rough towel should be used after the bath, both to cleanse and to promote reaction. If a child continues chilled and cold-looking, and appears languid after a cold bath, it is a sign it does not agree, and the temperature of the water should be raised, or the washing should first be performed in tepid water, just at the last, a little cold water dashed over the body.

The food in childhood claims care, equally with air, clothing, exercise, and cleanliness; its regulation in infancy has already been sufficiently noticed. For strong healthy children, particularly those inclined to full or gross habit, the milk and farinaceous

diet—such as rice, sago, bread, &c., cannot be exchanged for a better, for the first fourteen months at least, but if children are delicate, and incline to the lymphatic constitution, the use of animal broths ought to be commenced even as early as the sixth month. The broth made from fowl, mutton, beef, or veal, should not be too strong, should be free from fat, and is better thickened with arrow-root or sago for a young child, or with rice or bread crumb for an older one. Towards the twelfth month, a lightly boiled egg may be given, but quite the best method of giving the powerful nutriment of egg to children, is to break the raw egg into some one of the milk preparations, whilst the latter is quite hot, and to beat up together. In this way, the albumen is sufficiently cooked but not hardened. When the teeth of a child are sufficiently advanced to masticate it, animal food in the solid form may be given, but the quantity and frequency must entirely depend upon the constitution of the child. Strong ruddy children are better with it only twice or three times a-week, weaker children should have it once a-day at least, and in the more advanced stages of childhood, perhaps twice, but this is a point which should be settled by a medical adviser. Potatoes, and the more wholesome vegetables, ripe fruits in their season, may all be allowed to children, in moderation, after the first eighteen months, and particularly should there be a tendency to costiveness, or to eruptions on the skin, and other affections depending upon gross habit of body; weaker children may also partake of them, but more moderately, and provided they do not become substituted for more indispensably, nourishing food. Children at any age are better without baked pastry of any kind, but boiled paste puddings are not unwholesome,—cheese, and all sorts of spiced and seasoned dishes are quite objectionable. A healthy child should never have an alcoholic stimulant within its lips, and tea or coffee, if allowed, should be very weak, and made with much milk; but there are some delicate children, nay infants, who may derive much benefit from a portion of alcoholic stimulant, carefully given as medicine, and as medicine requiring so much care and consideration, that it should only be employed when and as advised by a medical man. Children should not be made to wait long without some nourishment in the morning; the rapid changes which go on in their systems render them peculiarly sensitive to any, even temporary, want of nourishment. Regularity in meals is important even from the earliest period
of existence; it is always advisable th
principal meal be taken early in the

Physical training, however, and the
attention to physical regulations, r
the addition of mental training to car
thoroughly even the physical educat
a child. For the infant a cheerful
is most valuable. As childhood adv
whatever may depress or frighten
especially to be guarded against, ar
threats or practices which excite und
terror, especially avoided. Affection
brain may be the result. Undue preco
a child should always be regarded, if no
alarm, at least with suspicion. Many s
lous children are unusually precociou
as a general rule in such instances, the
is more prone to disease, which ma
life, or predispose to mental affectio
such cases it is of the highest impo
not only to avoid everything whic
stimulate to mental effort, but to
them to such moderate and regular ph
exertion, as will in some degree dr
from the brain itself, both the activ
circulation and of nervous energy.

There are some diseases which are
particularly considered as those of
hood, such are measles, hooping-
scarlet fever, small-pox at times
chicken-pox, not that they do not oc
adults, but more generally, being
through but once, it is in the earlier
of life. In addition to the above,
affections of the brain as acute infla
tion ending in effusion of water, conv
disease, croup, inflammation of the
and diarrhœa, are the most common
affections of children. They and
diseases may be referred to under
proper heads. Children quickly exhi
general symptoms of illness, but it
requires much more tact and discrimi
to make out its exact seat and nature
it does in the case of adults; it is, the
always desirable to place them under
medical care as quickly as possible,
same time the following ought to be
guide as to the site of the affection,
its *provisional* treatment.

When in a child complaining of il
or appearing ill, the eyes look heav
are wholly or partially closed again
light, if the brow is contracted, and i
these symptoms there is general fever,
acute affection of the head is to be dr
and the indications should not be neg
for an hour; if sickness is present wi
above, so much the worse. *Oppression*
breathing, along with general appeara
depression, is often the forerunner of
inflammatory affection of the chest,

may be considered as established, if heat of skin, general fever, *rapid* breathing and cough succeed. In the chest affections of children, the movements of the nostrils are much affected. Constipation, which can scarcely be classed as a disease, is almost natural to some children, but requires correction, and this should be effected if possible by food. Coarse bread should always be employed, and fruits, either cooked or ripe, such as *roasted apples*, given in moderation; honey or treacle are useful, but nothing is more so, than the daily use of porridge made from Scotch oatmeal. When the tendency to constipation in children cannot be overcome by diet, the next best remedy, is the use of a small enema of gruel simply, or medicated with castor-oil, senna, or any simple aperient, or made with soap water, but the simple gruel ought always to be tried first. Dr. Marshall Hall considers, that in children especially. the use of warm enemas exerts a peculiarly beneficial effect in stimulating the liver. An enema for a child of six years old. should not exceed twelve ounces, and ought to be administered slowly. When medicine *must* be given, as general aperients, castor-oil or infusion of senna are most useful: caution must, however, be exerted in forcing the former medicine—as sometimes must be the case—upon very young children; death has been occasioned from its getting into the windpipe. Rhubarb is a most excellent and safe aperient medicine for children, but its bulk and nauseousness frequently make it difficult to get it taken satisfactorily: magnesia is easily given in milk, and may be useful either in the solid or fluid form where active effects are not required, but the former especially ought not to be long continued. Calomel and grey powder, given alone, are too much given for their aperient action; they should not be administered except under medical sanction.[*]

As a general rule, in giving medicine to children, deception should not be practised; but whilst the child knows that it is medicine which it takes, it ought to have it in as palatable a form as may be, without interfering with the efficacy of the drug.

Refer to—*Bed-Room—Breast—Clothing—Diet—Electricity—Exercise—Milk—Rupture—Skin—Teeth—Vaccination—Ventilation—and to the articles on diseases and medicines generally.*

CHILBLAIN.—A chilblain is an inflammatory affection of the skin, more particularly of the fingers or toes, caused by alternations of cold and heat, and is characterised rather by irritating and troublesome itching than by pain. Persons of fine skin, scrofulous constitution, or languid circulation, are most liable to suffer from chilblains, and old people and children more than those of middle life. The sudden exposure of the skin when very cold, to a high temperature, is generally, and justly, considered to be an exciting cause of the affection, but one quite as frequent, is keeping the surface in a state of artificial warmth by the use of sleeping socks and hot applications in bed, or of fur-lined shoes and foot-warmers in the day-time. All these applications keep the skin in a continual state of unnatural perspiration, weaken its tone, and so render it more susceptible of the effects of cold when exposed to it. To prevent chilblains, in the predisposed, the feet ought to be regularly bathed with cold—or, in the case of the aged, tepid—water, or salt water, every morning, and afterwards well rubbed with a rough towel, and exercise trusted to, to preserve the warmth of the extremities rather than artificial heat. When chilblains have formed and the skin is unbroken, stimulant applications are requisite; many different ones are used; spirit, such as brandy, camphorated spirit, paregoric, turpentine, will any of them be of service, applied by means of a piece of linen, or gently rubbed on. When the skin of a chilblain breaks, an ulcer is the consequence, which discharges a thin slimy fluid and is often difficult to heal. In this case, the inflammation should be subdued in the first place by means of a poultice, and afterwards an ointment used, made either with forty drops of goulard, or ten grains of red precipitate, to the ounce of lard. Of course all friction or pressure from boots or shoes must be guarded against.[†]

CHIMNEY.—A chimney, by intention the channel by which the smoke and fumes of fire are conveyed away, also performs the no less important, but scarcely—until of late—calculated upon, office of a ventilator. In former times, when the chimney formed almost a separate chamber, *in* which persons sat round the fire, or indeed as long as it retained its ample dimensions, the people enjoyed an efficient means of ventilation, although in ignorance of the benefit. By change of fashion, the chimney has been gradually contracted and lowered to the model of the present modern fire-place; whilst this has been done, from ignorance of the necessity for pure air, no provision has been made to supply the loss of the efficient ventilating power of the old-fashioned construction, and consequently health must have suffered, and does suffer materially from the omission, although it is to be hoped that the diffusion of popular knowledge upon this and other points of sanitary regulation, will not allow such to be the case much longer. The chimney, however, is a notable instance of society enjoying ignorantly an arrangement conducive to health; and that ignorance, whilst making alterations more consistent with comfort and convenience, doing away with one great advantage, of which it remains for science to point out both the loss and the means of reparation. As whatever goes up, or ought to go up, the chimney, are vapours and gases which cannot remain down without injury to health, it is a matter of importance that the chimneys of a house draw well, more especially those of bed-rooms in which fire is used. As a means of ventilation simply, *independent of the fire*, the importance of a chimney is so great, that rooms in this climate which are destitute of one cannot be considered healthy, although it must be confessed, that this secondary office appended to the original intention, is rather a clumsy method of effecting so important an end, it is one, however, of which it is requisite to make the most, and therefore chimneys ought to have a thorough good draught for smoke, ought never to be stopped up when not in use, unless other means of efficient ventilation are possessed, and, when possible, should be fitted with some efficient mechanical contrivance for increasing their ventilating power. See *Bed-Room*, *Ventilation*, *&c.*

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[*] In the case of infants or young children, a piece of brown soap introduced into the bowel is often used domestically as a substitute for the enema, and answers well. The soap may be cut the shape and size of a damson stone.

[†] CHILBLAINS.—For additional information—See Appendix.

CHIN-COUGH.—See *Hooping-Cough.*

CHLORINE is a gas of a green colour. It is an important agent in manufactures, on account of its bleaching properties, and its powers as a disinfectant, or destroyer of the noxious emanations from decomposing bodies, whether vegetable or animal, render it a most valuable assistant in sanitary arrangements. When undiluted, it exerts an extremely irritating effect upon the lining membrane of the respiratory organs, and as serious and even fatal accidents have occurred from this cause, caution is requisite in its use. A small proportion of chlorine gas diffused through the atmosphere, very quickly and thoroughly destroys not only the smell, but the injurious properties of floating emanations, which are capable of engendering disease. Chlorine-gas is obtained in various ways, but the great magazine for its supply, is common salt, which is composed of chlorine and sodium. For sanitary purposes, various preparations, calculated to yield chlorine, simply and easily, have been used; of these the chloride of lime is the best known. This and most of the preparations, however, have the disadvantage of, when alone, yielding the gas too slowly and sparingly to be of much service, and when mixed with an acid, of pouring it out in quantity so great as to affect disagreeably or injuriously any persons exposed to its influence, particularly the sick. Other preparations require sprinkling about the place to be purified, and as this is often done in ignorance of its colour-destroying powers, much damage is done to furniture, &c. A late preparation,—Collins's disinfecting powder,—seems to be free from the above objections; when a portion of it is exposed to the atmosphere, it keeps up a certain, but sufficient exhalation of chlorine for some days, as it continues to absorb moisture. It is quite the best, most effective, and agreeable method for employing chlorine in the chambers of the sick which the author has met with. In no case of *continued* sickness, whether of an infectious character or not, ought chlorine fumigation to be neglected.

The principal preparations used in medicine, into the composition of which chlorine enters, are chloride of sodium or common salt —see *Soda;* chlorate of potass—see *Potass;* chloride of zinc—see *Zinc;* and hydrochloric acid. Hydrochloric acid is a gaseous compound of chlorine with hydrogen gas, but is usually met with in solution of a yellow colour, when it is generally called muriatic acid or spirit of salt. It is, of course a powerful corrosive poison when swallowed alone; its antidotes are the carbonates of potass, chalk, or magnesia in any form, or milk, or white of egg, whichever is first at hand, until the antacids are procured. In the absence of any of these, soap water may be given; but, in poisoning with any acid, it should be remembered, that mortar or whitewash, rubbed up finely with water or milk, may be used on emergency as an antidote; the lime neutralizing the acid. Of course the other antacids, particularly magnesia, are to be used if procurable at once. Of the latter, a dessert-spoonful may be given every ten minutes, and repeated according to the effect and probable amount of acid swallowed.

Muriatic acid is used in medicine as an unstimulating tonic, particularly in diseases such as malignant scarlatina, which are accompanied with tendency to putrescency; it is also used as a mouth-wash or gargle in the same disease. Muriatic acid is given in doses of ten drops, in a wine-glassful of water sweetened with sugar, or it may, if preferred, be taken much more largely diluted, and then forms a pleasant drink. It may be used as a gargle, in the proportion of two drachms to the pint of water

CHIRETTA.—See Appendix.

CHLORINE, SOLUTION OF, AND PREPARATIONS OF CHLORINE.—See Appendix.

As in the case of acids generally, unless largely diluted, the doses should be sucked through a quill or glass tube, to preserve the teeth from corrosion, and it is likewise a useful precaution, for the same purpose, to rinse the mouth with a diluted solution of carbonate of soda. In the absence of means for procuring chlorine, if fumigation is required, muriatic acid gas may be used as a substitute, as it is disengaged by mixing equal weights of common salt and oil of vitriol—sulphuric acid—care being taken against inhaling its irritating fumes in too concentrated a state.

CHLOROFORM is a fluid; it is transparent, heavy, colourless, and possesses an agreeable etherial smell. Its power of producing "anæsthesia," or insensibility to pain, when inhaled, is now too universally known to require comment. It is, however, too potent an agent to be trusted in unprofessional hands, except, indeed, under direct medical sanction and direction in each particular case. In the more painful and larger operations of surgery it is one of the greatest boons conferred upon suffering humanity, and its use tends to diminish the average mortality after them; in the case of minor operations, however, such as tooth-drawing, it becomes a question whether its employment is advisable; fatal cases *have* followed its inhalation, and although these have been in very small proportion compared with the numbers in which it is daily and hourly administered, still the fact of their having occurred, is sufficient to make us pause before incurring even the remote chance of so serious a result, for the sake of avoiding a momentary though sharp pain. Moreover, cases do occur, in which very disagreeable effects, such as headache, sickness, hysteria, &c., &c., have succeeded the use of chloroform. No one should ever be tempted to inhale this agent, without being certain beforehand that no tendency to organic disease exists, especially of the heart or lungs.

Although not suited for domestic use as inhaled, chloroform may be employed with perfect safety and much advantage, as an external application in painful affections, of the nerves especially, such as neuralgia and toothache. For this purpose, a piece of linen or lint, of a size proportioned to the part affected, is to be soaked in the fluid, and applied to the skin, covered with some material, such as oiled silk, to prevent quick evaporation.* It destroys the silk—in the course of a few seconds, it produces an intense but scarcely disagreeable burning sensation, which continues until the fluid is all dispersed. In many cases the neuralgic pain disappears at once. When the covering is removed, the portion of skin to which the chloroform has been applied is found much reddened, sometimes slightly blistered. A small portion of cotton wool soaked in chloroform will, sometimes, if placed in the cavity, allay the pain of toothache. Chloroform, taken into the stomach, has been found useful in spasmodic diseases, asthma, hysteria, &c., &c., and might be administered, in the absence of other remedies, in doses of from six to ten drops, along with a tea-spoonful of brandy in three table-spoonfuls of water.†

CHLOROSIS.—See *Anæmia.*

CHOCOLATE.—See *Cocoa.*

CHOKE-DAMP.—See *Carbonic Acid.*

CHOLERA—ASIATIC OR MALIGNANT.—The modern pestilence, which first visited this country in the year 1832, and again in 1849, in which latter visitation it carried off, in London alone, 15,000 people, and in the entire kingdom, not less perhaps than 80,000. At present, we know the disease but in its symptoms; its true nature and seat, notwithstanding numerous investigations and hypotheses, are still undetermined, and as regards the best mode of treatment there is nearly equal uncertainty. Happily such is not the case with respect to those conditions of body, and still more with respect to the external circumstances which favour the attacks of the scourge, and foster it into activity. Dirt, bad air, bad water, bad food, insufficient clothing, and irregular and vicious habits, are all the favourers of cholera, and were it not for these, singly or combined, it would, in all probability, pass comparatively lightly over our land. We know not how, in future times, the Almighty may order the mysterious agency of Asiatic cholera to fulfil His own good purposes; but we have every reason to calculate, that by a more diligent observance of those organic laws with which He has linked our material existence, we may be enabled to break the force of another, it may be more fearful visitation than the last. If the comparatively healthy homes, the habits of cleanliness, the sufficient food and clothing of the higher classes, have hitherto protected them from the sweeping virulence of the disease, as it has been shown in the less advantageously placed families of the poor, it gives confidence to suppose, that the elevation of the sanitary status of the whole mass of the people, will have an equally good effect. It is not supposition, it is certainty, that such would be the case; certainty, that, whatever the virulence or the mildness of the next visitation of Asiatic cholera, the suffering will be proportionally commensurate with the sanitary condition of the people when it comes. And yet this was equally well known after the warning of 1832 as it is now, and, after a respite of seventeen years, the pestilence came again, and found us unprepared as regards our own safety, but prepared to nourish and foster its mysterious germs, in the fœtid stagnant air of city, town, and village, unventilated and undrained, in water half supplied, or not supplied at all, or tainted with decomposition of every kind, from human excrement upwards; and such will be the case again, unless the people themselves stir, and to them this is addressed. Governments certainly may do much, vastly more than they now do, but they cannot do all; the people themselves must be fully awakened to the necessity of observing the laws of health now so well ascertained—awakened to the sin before God of neglecting them. The teachers of the people, and especially the clergy and the higher orders, must be more conversant with the laws which regulate the existence, and on which depend the health of their own bodies, and of those of their less favoured brethren; must be able to detect and point out those sanitary deficiencies which must so often come before them, and which they so often have it in their power to rectify. Whilst resignation to the will of God is required from all, surely it is not true resignation, but sinful ignorance and apathy, to submit the mind, whilst the cause remains, to the loss of husband or child carried off by cholera or by fever, generated by the unhealthy habitation, or the stagnant pool. For whether it be cholera or fever—and they both inhabit the same localities—or the slow undermining of the health, or scrofula, or consumption, they are too often looked upon as the direct visitations of God, when they are due to the sinful neglect of those laws with which He has connected the health and soundness of our material body, the healthy and happy working of our minds, both for our own good and that of our fellow-men. This may perhaps be deemed a digression from the main subject of this article, but the subject itself is one which arrests men's attention, and will do so still more, should the pestilence again threaten our shores; it has therefore been seized as another opportunity for reiterating the advantage, the necessity, the religious duty of attention to sanitary regulation, to supplies of light, pure air, and pure water in abundance; to regular and temperate habits, and to their usual attendants in this land, good food, and sufficient clothing. It is a privilege to be able to afford relief to sickness and suffering in the hour of need, and to further that end the present work is in part devoted; but more important still, is the enforcement of these measures, which will, under Providence, ward off or modify disease.

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* The best covering for lint soaked in chloroform when used to the skin is very thin tin foil, which is, of course, unaffected by the agent, like oiled silk or gutta percha.

† A most excellent and safe mode of using chloroform internally, is in the form of Julep, that is, dissolved in water. If half a drachm by measure of chloroform be well shaken in a bottle, with twenty ounces, or one medicinal pint of water, it is exactly dissolved. The resulting mixture is an extremely pleasant stimulant and anodyne, and may be given in doses of from one to three table-spoonfuls, or even a little more.

The first commencement of Asiatic cholera is traced to the year 1817, when it took its rise in a swampy district at the mouth of the Ganges, from whence it spread over India to various parts of Asia and Europe, and finally reached England in the year 1831, where it continued till the end of 1832, disappeared for seventeen years, and re-appeared in a more virulent form than before in the year 1849. The mode of propagation of cholera is undetermined, it exhibits the most apparent capriciousness in the course it follows; but one thing is certain, that those unhealthy external conditions already alluded to, almost, as it were, seem to attract the disease.

The violence of its symptoms, and the fearful rapidity with which it often terminates life, renders cholera one of our gravest diseases. Occasionally, but more frequently in hot climates than in temperate ones, persons are, as it were, prostrated at once by the cholera-poison, and die, perhaps within an hour of the first attack, without any other symptom than total collapse of the powers of life. More generally the seizure is not so sudden, probably there has been slight diarrhœa, or rumbling movements of the bowels, with sinking sensation at the stomach for some days previously, or at all events the person has felt unwell. When the disease sets in earnestly, which in the larger proportion of cases it does, during the night, the patient vomits, and is purged with more or less frequency and violence, the evacuations quickly coming to resemble thin gruel or rice-water, cramps of the limbs succeed, the surface becomes cold, blue, bathed in sweat, and has, particularly the fingers, a peculiar shrunken sodden appearance, the tongue is cold, the pulse imperceptible; the urine is suppressed, and the voice acquires a peculiar pitch of tone. Many die in this the collapse stage of the disease, but if it is passed through, reaction comes on, the surface gets warm, the thirst continues, the quick pulse becomes perceptible, the tongue is dry and brown, and delirium is present; in short, fever is established, and may end either in recovery or death.

During the prevalence of cholera, many err in making material changes in their ordinary modes of living, and by so disordering the regularity of the functions, lay themselves open to attacks of the disease. Of course, if a man is aware that he is habitually indulging in practices injurious to health, such as intemperance, debauchery, &c., &c., he only acts wisely as regard his physical safety, in changing those habits, but it is hazardous to alter regular modes of living, which have hitherto been found compatible with good health, it being understood, that whatever tends to lower the standard of health, favours the attack of the disease. There is, however, one important precaution which ought to be observed, at all times indeed, but more particularly during the epidemic of cholera, the perfect purity of the drinking-water should be ascertained, and its freedom from all decomposing organic matters made certain. Care is also to be observed not to take active purgatives, particularly salines, which produce watery evacuation; if aperient medicine is required, it ought to be of a warm character, such as magnesia and rhubarb, with some aromatic; for whatever produces free action of the bowels, apparently increases the susceptibility to attack. For this reason, too, the slightest tendency to diarrhœa should at once be arrested, by the aromatic confection or chalk-mixture, repeated as often as requisite, with the addition of from five to ten drops of laudanum to each dose, and the use of milk and farinaceous preparations, containing gelatine, for food. The speedy adoption of these measures, in places distant from medical assistance; and their enforcement by the clergyman or some intelligent individual might do much to check the disease. Should the astringents above recommended fail, three or four doses of acetate of lead and opium might be given by a careful person.[*]

With regard to the actual treatment of the disease itself, when fully established, many different methods have been proposed and practised, and few of them, perhaps, without apparent advantage in some cases; but as yet no treatment which can be called decidedly successful—a cure—has been discovered. Of course in so formidable a disease, proper medical assistance ought to be obtained as quickly as possible; but as far as our present knowledge extends, those around the patient would be fully justified in using every possible method of hot application to maintain the temperature of the body, and in permitting the gratification of the intense thirst to the full, by cold water, alone, or containing one drachm of common salt, one drachm of carbonate of soda, and twenty grains of chlorate of potassa, in every quart. In doing this there will be at least the consolation that the comfort of the patient is promoted; everything further must be left to medical judgment. We must live in hope, that before the scourge again visits us, which it probably will do, particularly if the present sanitary evils are permitted to remain, medical science will have some more efficient method of cure to offer than we at present possess.

The consecutive fever of cholera requires the treatment of fever generally.

CHOLERA, BRITISH.—See *Bilious Cholera.*

CHOREA.—See *St. Vitus's Dance.*

CHRONIC.—A term applied to diseases of slow progress, in contradistinction to "Acute."—See *Acute.*

CHYLE.—Is the milk-like fluid which is separated from the chyme, or digested food mass, after it has passed from the stomach, and become mixed in the small intestines with the bile and pancreatic fluid. The vessels by which the chyle is absorbed from the intestine have been named lacteal, from the milk-like or white appearance of this fluid, which they contain abundantly after a full meal; the characteristic whiteness being more particularly apparent, if the food has contained much fat.

Refer to—*Absorbents—Chyme—Digestion—Pancreas.*

CHYLOPOIETIC—is a term applied to the viscera which assist in the formation of the chyle.

CHYME—is the pultaceous, grey-looking, acid substance, to which food is reduced by digestion in the stomach, before it passes—in the healthy state at least—into the small intestines.

CICATRIX—is the scar or mark left upon the skin or upon an internal organ, at the place where separation of substance, either from violence or ulceration, has been healed.

CINNAMON,—the well-known spice, is the bark of a tree. It is brought from Ceylon and the islands of the Indian Archipelago. It is largely used in medicine for the same purposes as other stimulant aromatics; chiefly as an addition to correct the nauseant, or add to the stimulant properties of other more active medicines. The distilled water is well known. In consequence of the high price of true cinnamon, a coarser description, the cassia bark, is very generally sold in place of it in this country, and though not so fine in flavour as the true bark, is equally well adapted for medicinal use. True cinnamon is thinner, lighter in colour, and consists of more quills one within another, than cassia bark.

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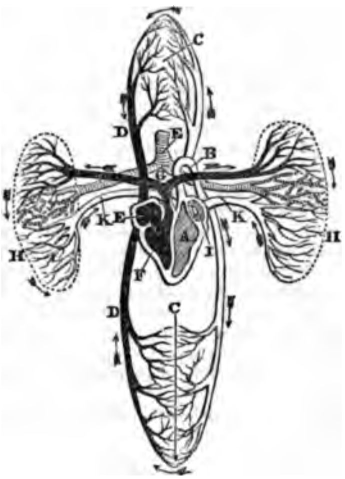
[*] CHOLERA.—The following mixture is simply made, and would be found very serviceable, either in the case of cholera itself, or in diseases approaching its symptoms.—Take of Prepared Chalk two drachms, Chloroform Julep—See Note, page 111—eight ounces, and rub well up together, add from twenty to sixty minims of Laudanum, according to the violence of the symptoms, and according to these, give to an adult two table-spoonfuls every one, two, or three hours. For a child one year old two tea-spoonfuls would be a dose, but the mixture should not contain more than thirty minims of Laudanum, or it should not be repeated so frequently, unless the symptoms are violent.

CIRCOCELE.—An enlargement varicose condition of the veins of the testicle.

CIRCULATION OF THE BLOOD—is the entire course of that fluid from its leaving the heart to its return to that organ. In man, and in warm-blooded animals generally, including birds, there are two complete systems of circulation—see fig.—the one through the body at large, the other through the lungs, and this double circulation involves the presence of a double propelling organ, that is, a heart consisting of four cavities.



The structure and requirements of our animated bodies as they have been constituted by the Creator, depend for their maintenance in healthy existence and action, upon the continual passage of arterial blood throughout every portion of their structure; for this the circulation provides. The heart, which is muscular, consists of four cavities, two auricles, and two ventricles; of these, the left ventricle—fig. A—which gives the first propulsion to the arterial wave of blood, is considerably the most powerful. When it contracts, the blood contained within it at the moment, is forcibly propelled into the aorta—fig. B—or main blood vessel of the body, from which it diverges into the secondary branches, until at last, by the division and subdivision of the vessel, it is conducted into the capillaries—fig. C—in which it comes into more intimate connection with the elementary components of the body, and undergoes such chemical change, that when it emerges, it is an altered fluid; instead of the bright red arterial, it is the dark black-looking venous blood, unfit for the maintenance of the vital functions. It is now collected by the veins—fig. D—and conducted back to the heart, the *right* auricle of which—fig. E—it enters; from this cavity it passes into the *right* ventricle—fig. F—and is propelled by its muscular power into the pulmonary artery—fig. G—and through the lungs—H H—in its passage through which it is brought into contact with atmospheric air, casts off the carbonic acid with which it has been laden, absorbs oxygen, and being chemically changed is once more the bright arterial fluid, which, returning through the pulmonary vein—K—to the left auricle of the heart—I—is transmitted by it to the left ventricle, to be sent once more upon its mission of life.

Although the forces which circulate the blood, namely, the muscular propelling power of the heart, the muscular and elastic contractility of the arterial coats, and the suction power exerted within the chest, are sufficient of themselves, during health, to maintain the vital current, which flows, and must flow from the first moment of life until death; their power and efficiency is much assisted by the muscular movements of the body, by exercise, which, quickening the respiration and the action of the heart, sends the blood with increased force and frequency throughout the frame, and stimulates every function to increased action. Thus, provision has been made by the Creator, that whilst the powers which circulate the blood can, of themselves, carry on that necessary process sufficiently to preserve life; high health and vigour can only be attained by the active exercise of our limbs. In the aged, and in those exhausted by disease, who are long confined to a horizontal posture, the circulating powers become too feeble to overcome the force of gravity, and the blood tends to accumulate, more particularly in the lungs, in the most dependent part; for this reason, change of posture is advisable.—See *Bed.*

Refer to—*Artery—Blood—Heart—Respiration, &c.*

CITRATE OF IRON is a compound of iron and citric acid, introduced into medical practice within the last few years. It is an elegant and pleasant form, and may be given in solution in water in one or two grain doses. It becomes moist if exposed to the action of the air.

CITRATE OF QUININE AND IRON—is a compound of iron, citric acid, and quinine, and is an elegant and highly useful form of tonic; it may be given in a similar way, and in doses similar to the above.[*]

CITRINE OINTMENT—is a mercurial preparation much used by some in skin diseases. In its ordinary form it is too strong; and should be mixed with once or twice its weight of lard. Iron utensils or spatulas must not be used in its manipulation. It is an ointment which very quickly spoils.

CLARET—is one of the most wholesome of the light wines. It contains 15·10 per cent. of alcohol. In convalescence, from acute febrile disease in which wine is admissible, but where there exists tendency to febrile action from slight causes, claret is most useful, and preferable to the stronger and heavier wines. In diabetes, claret has been recommended as superior to every other form of stimulant [†]

CLAVICLE.—The Collar-bone—extends from the upper part of the breast-bone to the point of the shoulder. It is particularly liable to fracture from falls upon the shoulder; the accident is easily detected.—See *Fracture*.[‡]

CLERGYMAN'S SORE-THROAT [§] is a peculiar affection of the throat and organs of voice to which public speakers are liable; according to Mr. Macready, actors, who have to assume feigned tones, are more liable to it from that cause. The seat of the disease is the mucous follicles scattered over the membrane of the throat, larynx, &c., being extended to the latter from the former. The commencement of the disease is insidious; it begins with an uneasy sensation, as if there was something in the throat which required to be hawked up or swallowed down; at the same time the mucous secretion is viscid. As the larynx becomes affected the voice is changed, becomes hoarse, unequal in tone, or quite extinguished; there may be slight pain about the parts, but not much cough in the earlier stage of the disease. All the symptoms become aggravated by cold, by vicissitudes of temperature, or by exertion of the voice in reading, speaking, &c. The above sources of aggravation are, of course, to be guarded against, and the general health attended to; but the cure of the disease, which consists chiefly in the repeated application of a strong solution of lunar caustic to the parts affected, must only be entrusted to the medical man. Dr. Green, of New York, has the credit of first accurately describing the disease, and of prescribing the treatment above-mentioned, which is very successful.

CLIFTON—lies within a mile of Bristol. Sir James Clark speaks highly of its climate. "In its local advantages and geographical position it yields, perhaps, to no place in the kingdom as a residence for a large class of invalids. Within its own limits it affords a sheltered winter, and an open airy summer residence; while it is surrounded by numerous places of agreeable resort in the fine season, suited to the various classes of persons who may seek its shelter during the winter. Compared with the south and south-west coasts, the spring is the period of the year in which this climate appears to the greatest advantage. For consumptive patients, and those labouring under irritable affections of the bronchial membrane, the softer and more humid air of Devon will be found more soothing, while for invalids whose constitutions have suffered from long-continued derangement of the digestive organs, or a congested state of the mucous membrane, with copious secretion; and also for young scrofulous persons, and those of relaxed habits of body, generally, Clifton will prove a preferable climate."

"The spring termed Hotwell rises at the base of the lofty St. Vincent's Rock, and is said to yield as much as forty gallons of water in a minute. * * * The temperature of the water is 76° Fahr. Like the springs of Bath and Buxton, the salts of lime predominate. The following table will exhibit the proportion of the saline constituents in a gallon of water:—

	Grains.
Muriate of magnesia . .	7·25
Muriate of lime . . .	3·80
Sulphate of lime . . .	7·5
Sulphate of soda . . .	16·15
Carbonate of lime . . .	13·5
	47·30

"A gallon also contains, according to Dr. Carrick, thirty cubic inches of carbonic acid gas.

"The water emits a few gas bubbles when drawn into a glass. Taken internally, it generally acts upon the kidneys, and occasionally produces vertigo and headache. It is recommended in various states of deranged health. The baths are not much used. The internal use of the water is considered to be very efficacious in cases of dyspepsia with acidity, in affections of the kidneys, as diabetes, gravel, and tendency to stone."

CLIMACTERIC DISEASE is a sudden giving way of the vital powers in persons of advanced life, without any definite disease to account for the change. The affection seldom occurs before fifty years of age, and is more common in men than women, for one reason, probably, that its most frequent exciting cause is over-work and anxiety of the mind in business. The person who is becoming the subject of climacteric disease, complains of weakness coming on gradually, the appetite gives way, sleep is deficient, the bowels sluggish, the pulse quick, and the tongue fured; the flesh falls away, and the altered countenance assumes an aged look in a short period: in other words, the "constitution is breaking up," and the individual's friends remark that "he ages very fast." Swelling of the limbs, eruptions of the skin, and mental apathy, are further concomitants of the disease, which, if unchecked, may run on to a speedy fatal termination; whilst it also renders the patient liable to sink easily under any attack of acute illness, even of a common cold, which, too, it may be observed, is often the first traceable commencement of the attack of climacteric. Another very frequent cause, is grief caused by the loss of friends or relatives, who have been much mingled in the affections and habits of daily life.

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[*] Citrate of Iron and Strychnine.—See Appendix.

[†] Claret.—See Wine.

[‡] Clay as a Dressing to Fetid Sores.—See Appendix.

[§] Clergyman's Sore-throat.—It must be borne in mind that cases of this kind are not unfrequently aggravated by too prolonged use of caustic, so that for a time soothing measures are useful. Ice sucked is beneficial in cases of great irritation, also the demulcents, such as gum-arabic, and more particularly the various preparations of Bismuth, Shacht's liquid *form especially*.—Refer to Bismuth—Silver Nitrate.

When an aged person exhibits the symptoms described above, they should immediately be attended to: the case *must* be put under medical management, and will require tonic treatment, generous living, complete relaxation from the cares and anxiety of business, and, if possible, change of climate.

CLIMATE is the condition of the atmosphere which generally prevails over any particular tract of country, a condition which is, of course, regulated and modified by a great variety of circumstances. The latitude, the elevation, the proximity to, or distance from the sea; the soil, the absence or presence of water, including the drainage, the amount of wood, and the shelter or otherwise from prevailing winds, all exert important influences upon the characteristic climate of any locality, and have to be considered in the recommendation given, or plan of action resorted to by invalids. The subject is quite too extensive to admit of profitable consideration in this work, and the decision respecting the climate, resort to which is likely to benefit each individual case, is so much matter of judgment, and is really so important, that medical opinion ought always to be taken, when change of air or climate is seriously sought as a remedy in illness. Very much precious time is often lost, and real injury inflicted, from want of due care upon this head, and from persons acting upon their own ideas, or upon insufficient advice. Those who desire to get for themselves the most complete information upon the subject of climate, will find it in the valuable work of Sir James Clark.

There are few diseases, perhaps, which do not derive either temporary or permanent relief from change of air and climate, but some are more strikingly benefited than others; they are particularly diseases of a neuralgic, intermittent, or spasmodic character, of which hooping-cough and asthma are good examples. Chronic rheumatism, scrofula, weakness of the constitution generally, including pulmonary consumption, and dyspepsia may also be mentioned. As a general rule, benefit appears to result from change to a climate presenting characters which contrast with those of the one in which the individual is or has been generally resident; the dyspeptic or consumptive patient will derive advantage by removing from the colder to the more genial region; the fever-stricken resident of the sultry or vaporous plain, will regain health and strength in the bracing air of the hills, and even the country child, in whose constitution hooping-cough lingers, will probably lose it if transferred to city air for a short period. Perhaps no air exerts such universally tonic effects as that of the sea, but to some it is too stimulating in some particular localities, though not so in others, but, in act, the differences in climate, and its effects, are so numerous and varied, that it is impossible here to pass beyond the general consideration of the subject. Unquestionably some amount of the beneficial influence of change of climate is due to the stimulant effect upon the mind, which excitement and change of scene produce, this being more particularly the case, if the condition of the individual permits or calls for the continued change of travelling from place to place.

The error is frequently committed, of resorting to the change of climate as a last resource, which, if earlier had recourse to, might have proved of essential or real service. Another error, is trusting too much to the curative power of climate, and invalids, by throwing aside the restraints of the regimen to which they have been previously subjected, and neglecting the other accessory adjuncts to recovery, fail to derive the full measure of benefit which they ought; and this, more especially if they do not consider and endeavour to accommodate themselves to the modes of living, and other requirements, adapted to the climate in which they are resident for the time.

Sir James Clark divides the "mild region of England" into four districts or groups of climate; that of the south coast, comprehending the tract of coast between Hastings and Portland Island; the south-west coast from the latter point to Cornwall; the district of the Land's End; and the western group. In Scotland, the Island of Bute, situated in the Frith of Clyde on the west coast, is a remarkable instance of climate modified by situation: surrounded by sea water, and sheltered by lofty hills, its climate is remarkably mild and equable, so much so, that snow rarely lies above a few hours. It is much to be regretted, that the beneficial effects of change of air are so little attainable by the poor, particularly in recovery from acute illness, when it is frequently all that is requisite to re-establish firm health; and to hasten an otherwise lingering convalescence. The establishment and support of convalescent stations for the poor, would constitute a truly useful end for charitable support.*

Refer to—*Atmosphere—Convalescence, &c.*

CLOTHING.—The protection of the body from the influences of climate, by means of clothing, is most intimately connected with health, more especially in a climate like that of Britain, subject to the numerous and sudden vicissitudes of temperature, moisture, &c. The form of clothing must ever vary with fashion; the principle ought always to continue the same, that is, it should involve complete and thorough protection of the surface of the body, and especially of the cavities of the chest and abdomen, from cold or sudden chill. This is best insured by a covering of woollen material next the skin; the habit should be commenced from the earliest childhood, and continued through life in every season of the year, varying only the thickness of the flannel, or other woollen texture, according to the average temperature. No outward clothing can be so uniformly efficacious as the inner one of wool, as a protection against our variable climate, and yet very many there are, who, both in their own persons, and in those of their children, neglect this real preservative of health, and therefore, this real economy, although the cost at first may seem much to the poor. In addition to the inner clothing, the outer ought of course to be sufficient, and in winter, an addition made on going from the warmth of the house into the open air. In this respect, men are generally better provided, under all circumstances, than women and children. Women, from the nature of their dress, and from the pernicious custom of exposing the chest and arms—not always, which would be less hurtful—but occasionally, suffer much from errors in clothing; they subject themselves to the extremes of fur and thick shawls in the morning, and of thin dresses at night, added to which there is often exposure to currents of air when heated, and without any protection against their effects. Any article of clothing, such as fur, &c., which keeps up a more than average degree of heat, and even induces perspiration, and which is liable to be thrown off or put on easily and as fancy dictates, is hazardous and injurious. Children are in many cases most insufficiently protected from the weather; numbers are without a single article of woollen under-clothing, either in consequence of carelessness, or from the erroneous idea of rendering them hardy; a system which *may* answer in the offspring of hardy parents, whose children are hardy in every other respect, but which can only be productive of injury to health in those who spend most of their time in warm, perhaps too warm, rooms and nurseries. The surface of a child, from the neck downwards, ought to be kept warm by clothing; exposed chests, bare legs, and thin insufficient coverings, are synonymous with croup, inflammation of the lungs, and scrofula. For the same reason that boas, &c., are unsafe articles of dress for women, comforters and woollen neck-wrappers are not advisable, except under particular circumstances, for boys; they heat the neck, and if thrown off carelessly, predispose to cold or bronchitic affection.

The clothing of the feet is a matter of the highest importance to all; dryness and warmth must be attended to by those who value health. On the other hand, the head is often, in infants and children especially, kept too hot.

CLOVES are the undeveloped flower-buds of a tree originally a native of the Molucca Islands, but which is now cultivated in various parts of the tropics. They are well known as a spice, and used as a stimulant aromatic in medicine, their properties depending upon the volatile oil which is intensely acrid. Cloves are rarely used in medicine alone.

CLUB-FOOT.—See *Deformity.*

CLYSTER, ENEMA, or INJECTION, are all names for the same useful adjunct to medical treatment, the mechanical injection of fluid into the bowels by the fundament and rectum. Clysters are most commonly employed as aperients, but they are also used as anodynes, or antispasmodics, for the purpose of dispelling wind, or as internal fomentations, or as styptics. In illness they are generally administered to the patient by others, but instruments are constructed to facilitate their self-administration, which is of course preferable when, as frequently occurs, they are often required in ordinary health.

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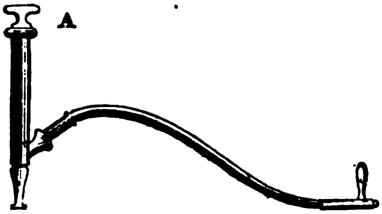
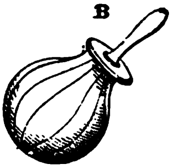
* CLIMATE.—For further remarks—See Appendix.

The mechanical means used for the administration of clysters are very numerous, the most useful are the injecting syringe—fig. A—and the vulcanized india-rubber bag—fig. B. The pipe and bladder, which was formerly the only method used, is still employed in country districts, and though clumsy, may be had recourse to on an emergency.*


A


B

The injection syringe, or pump, is most useful when the clyster to be administered much exceeds half-a-pint in quantity, when it is used as an aperient, and requires to be forcibly injected. When the clyster does not exceed half-a-pint, as in the case of children, or when used as an anodyne or styptic, the vulcanized india-rubber bag—fig. B—is quite the most convenient mechanical agent, from its simplicity, and the ease with which any one may use it. Either instrument may be procured good from any respectable maker of surgical instruments, and directions are, or ought to be, given with them. When a clyster is administered to the sick, the patient may either be laid on the face or on the left side, near the edge of the bed, with the knees drawn up. The
metal or bone pipe which is introd
the bowel, should be well oiled or
and its introduction should be effe
perfect gentleness, not straight up,
direction slightly inclined towards
bone, care being taken that no ab
scratching of the parts be occasion
is a most necessary caution in all c
more especially in those in which
use of the remedy will probably be
Even with the greatest care, the
liable to become sore, causing the
both to dread and suffer each tim
strument is used, and even to be u
bear a continuance of the practice.
cases a clyster should be given slo
gently, and care taken that air is no
up into the bowel as well as fluid;
syringe, this is to be avoided by
it full of fluid before it is applie
patient, and by not continuing the o
when the fluid used gets so low in t
as to allow air to be drawn in; with
care should be taken that the pi
always held the lowest. When th
used, air is less likely to be intro
the patient is laid on the face. W
syringe is used, if the flexible tu
been kept bent in one position, the
be slightly warmed before any at
made to straighten them for use, ot
especially in cold weather, they a
crack. If an instrument has been
anything but simple water, it ough
to be well washed out with war
before putting by. When taken
it must always be unscrewed by
holding the metal mountings.

Clysters self-administered, can o
conveniently, by means of the syri

Aperient clysters may be simply
nical, of water, gruel, and the lik
cold, tepid, or warm, or they may
cinal. There is an objection to cl
simple water, that in some cases
apt to wash off the natural pr
mucus of the bowel, and therefore
haps better as a general rule, an
the remedy is often or habitually
employ a demulcent, such as gruel o
water. Cold clysters, sometimes
ought never to be resorted to e
medical direction; the fluid ab
temperature of 90° will generally
most appropriate, and when used
about a quart thrown up slowly,
sufficient force, will be found a
amount for the generality of adult
use a much larger quantity, as muc
or three quarts; this, in certain
illness, may be a useful measure,
habitual thing is bad; the frequ

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* **Clyster.**—Like most other things the clyster apparatus has undergone many improvements
last few years, the pumping apparatus, Fig. A, having been almost superseded by the Enema
which a vulcanized India-rubber ball takes the place of the metal syringe. The Enema syphon,
Kennedy's, is perhaps one of the best, but there are many varieties on the same principle.

distension with so large a quantity of warm fluid, produces want of tone, which aggravates the torpid tendency of the bowels, and favours fæcal accumulation. For a child of six years of age, half-a-pint of simple gruel clyster is ample. These simple clysters act by stimulating the bowel by their mechanical bulk; when a medicinal clyster is used, the object is in some degree to avoid this, so that the medicinal agent may not be expelled before it has time to exert its peculiar agency. The medicinal clyster ought, therefore, as a general rule, not much to exceed one-half the quantity of the simple one.

The simplest and readiest medicinal clyster is made, either with a table-spoonful of common salt in a pint of gruel, or with a piece of brown soap, the size of a hazel-nut, rubbed down into a pint of warm water; or instead of these, from half-an-ounce to an ounce of Epsom salts, or two ounces of olive-oil, or half that quantity of castor-oil; or infusion of senna, half-an-ounce of leaves to the pint, may be employed. Stronger clysters, with turpentine, croton-oil, &c., are also used by medical men.

Anodyne clysters ought always to be so small in bulk—not exceeding three fluid ounces—as not to stimulate the bowel to expel them, which, from the nature of the cases in which they are usually given, it is apt to do. In all cases, anodyne clysters are most conveniently administered by means of the vulcanized bag, and the best form is from fifteen to twenty-five drops of laudanum in three ounces of moderately thin starch. This clyster is of course to be retained in the bowel if possible. One of the most useful clysters for dispersing flatulence, is made with two drachms of tincture of assafœtida to half-a-pint of gruel, to which, if there is much pain, ten or fifteen drops of laudanum may be added; or the same quantity of assafœtida tincture, may, if required, be added to an aperient clyster. A useful domestic clyster, in the country, for the same purpose, is half-a-pint to a pint of strong "rue tea," or infusion of rue.

Clysters used for the purposes of internal fomentation may be given to the amount of a quart, and of a temperature of 98° or 100° Fahr.

In hæmorrhage from the lower bowel, *when it is proper to interfere with it,* a two or three-ounce cold styptic clyster may be used, made with sulphate of zinc four grains, or sulphate of iron one grain, to the ounce of fluid.

COAGULATION is the conversion of the whole of a fluid, or of some of its constituents, into a solid. The solidification of the white of an egg by heat is an instance of the former, that of the clot in blood, or of the curd in milk, of the latter. The coagulating power of the blood is the great safeguard in bleeding, which could not be *permanently* stopped by any appliances, without this property of the vital fluid, and it is the loss of this property that gives rise to the occasional cases of danger or death from bleeding, in consequence of comparatively slight wounds, such as those from leech bites, or from the extraction of a tooth.

*COAL GAS.—See *Carburetted Hydrogen.*

COB-WEB, employed as a styptic, to arrest bleeding from simple flesh wounds, or from leech bites, is often used in the country. The web of the black spider, which builds in out-houses, &c., has been used with much success, as a medicine in ague, given in doses of ten grains, in the form of pills, every two hours, commencing six hours before the return of the paroxysm. The fact is worthy of remembrance. Refer to *Ague.*

COCCULUS INDICUS is the fruit of an East Indian tree. It resembles a large brown shrivelled pea in outward appearance. The kernel is intensely bitter, and on this account is sometimes used fraudulently in the manufacture of beer, instead of the hop; also with the view of increasing the intoxicating power of the beverage. In some districts, a deleterious, but rapidly intoxicating ale, named "tear-brain," supposed to contain cocculus indicus, is, or used to be, consumed by regular drinkers, on account of the smaller quantity of it, compared with ordinary ale, which produces intoxication, or rather stupefaction. This power of stupefying has occasioned cocculus indicus to be popularly used as a fish poison.

COCHNIEAL, an insect which yields the well-known colouring matter carmine, is brought from Mexico, being gathered from various species of cacti, on which it feeds. It is used chiefly as a colouring agent; but has been employed, especially as a domestic remedy, in hooping-cough. Its powers are very doubtful.

Refer to—*Hooping-cough.*

COCOA — CHOCOLATE. — Cocoa is prepared from the seeds or beans of a tree —the Theobroma Cacao—cultivated chiefly in the West Indies and South America. The beans are roasted to develope the aroma and free them from the husks, which are comparatively innutritious, though frequently mixed up with the prepared cocoas of commerce. Cocoa, when genuine and properly prepared, is a wholesome and nutritious article of diet; it contains a considerable quantity of oily or fatty matter, starch, &c., &c., and a peculiar principle, "the obromine," which, according to Liebig, nearly approaches theine and caffeine — the characteristic principles of tea and coffee; in composition; cocoa does not, however, affect the nervous system in the same manner as these beverages, and may therefore be taken in cases when they are inadmissible. Cocoa, as a beverage, ought to be prepared only from the crushed beans themselves, or "nibs," as they are called, for there is no certainty as regards the purity of the various artificial preparations sold under the names of "flake," "rock," "granulated," "homœopathic" cocoa, &c., &c., &c. In the recent investigations of the "*Lancet* Sanitary Commission," more especially, these often puffed-off compounds have been found to be made up of cocoa, sugar, starch, or flour, husks of the cocoa bean, &c., &c., and sometimes with fats and oils of various kinds, and earthy and colouring matters.

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* Coal Tar.—See Appendix.

Chocolate is professedly a manufactured article, and should be made with the kernels of the cocoa bean, perfectly free from husks, and reduced to a smooth uniform paste with sugar, and starch of some kind, such as arrow-root; vanilla or cinnamon being used to impart flavour. Such a preparation as chocolate is of course liable to many adulterations, of which the most deleterious, are those with ochre, red lead, vermilion, sulphate of lime, chalk, &c., &c.; tallow is sometimes used in the preparation of the cheap forms. It need scarcely be said that those who make use of chocolate ought always to procure it from dealers on whom they can depend. That of French make is generally to be preferred. As an article of diet, chocolate is extremely nutritious, but, on account of the oil it contains, is apt to disagree with weak stomachs, particularly if too great heat be used in preparing; moreover, the addition of vanilla is apt still more to increase its indigestibility, and, according to Dr. Paris, to occasion nervous disorder.

COCOA-NUT.—The well known fruit of the palm, is, in its ordinary state, extremely indigestible, from the same cause that most other nut kernels are so, the solidity of the structure and the oily constitution, a combination which strongly resists the digestive powers. The reduction into paste or flour probably remedies the objection.*

COD-LIVER OIL is obtained from the liver of the common cod-fish and other allied species; it was formerly employed in medicine in this country, fell into disuse, was revived as a remedy in Germany, and again brought into public notice in Britain, Dr. Hughes Bennett of Edinburgh in 18 since which time it has advanced rapidl and deservedly, in the estimation both the profession and of the public. It h never, however, been entirely abandoned a domestic remedy in rheumatism, a among the sailors, particularly those co nected with the northern fisheries, had be regularly used both internally and exte nally, in the above disease. Now, howeve it is principally employed and celebrat for its curative powers, especially in pu monary consumption, in scrofula, and all diseases connected with the scrofulo constitution, or depending on general d bility. In the atrophy or wasting of t flesh in young children, connected wi enlarged glands in the belly, which is tum and hard, feels knotty, and with the veins the surface enlarged, cod-liver oil, giv internally, a teaspoonful twice a day, a well rubbed into the skin of the belly t or three times a-day, will in many cas cure, in a way which no other remedy are acquainted with could do.

For some time, the dark, heavy, stro oil was considered to be the most efficaciou but now, especially since more care h been bestowed on the manufacture, t purer and lighter oil, of the colour of lig mahogany, is as good as any that can used. The dose for an adult is general one tablespoonful twice or three times day; it is however by some given mu more largely. It is always advisable first, to begin with smaller, such as te spoonful doses, till the patient and t stomach become accustomed to the remed which even children quickly do, althou sickness is sometimes produced at fir Tastes differ much as to the best method taking cod-liver oil; floated in a little bitt beer answers well, or the dose may shaken up with half the quantity of syr of marsh mallow, and swallowed at onc or it may be taken in water, simple aromatic. With many, cod-liver oil a slightly upon the bowels. In some cases chest affection, the breathing is certain apt to become more difficult for the fi few days of its use, and it has *been said* induce spitting of blood. There cannot stronger evidence of the nutritious pow of cod-liver oil, than the way in which omission is felt, by patients who have tak it regularly for some time, neither wine n anything else appears to be a sufficie substitute.

Refer to—*Scrofula, &c.*

COFFEE.—Active principle Caffei —Coffee is the berry of a shrub, the *Co*

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* Codeia.—One of the active principles of opium.—See Appendix.

Cod-Liver Oil.—The following form of administration will suit some persons who cannot take the otherwise:—Rub down two ounces of loaf-sugar, in a quart mortar, to fine powder, add the yolk of an e and blend thoroughly with the sugar, adding three drops of oil of cinnamon; add two ounces of cod-liver by small quantities, and rub with above till thoroughly incorporated; finally add, still rubbing, an ounce orange flower water. The dose—one table-spoonful thrice daily, before meals. It is said that shaking oil with cherry laurel water is a good method of correcting its smell and taste; of course, the laurel-water *separated* before taking the oil.

Arabica, indigenous to Arabia, and now cultivated in the East and West Indies, in America, &c., &c. It contains a considerable amount of essential oil, and a peculiar principle, caffeine, which is identical with "theine" the characteristic principle of tea. The berry requires roasting to develope the well known fragrant aroma:—

As an article of diet, coffee is for most persons wholesome and stimulating, but when there exists any tendency to head affection, or when the biliary secretion is apt to be over-abundant. it ought not to be used. Dr. Paris remarks, that coffee, "if taken after a meal, is not found to cause that disturbance in its digestion, which has been noticed as the occasional consequence of tea; that on the contrary, it accelerates the operations of the stomach;" when strong, it most undoubtedly exerts much influence over the brain and nervous system, producing watchfulness and feverish symptoms; it is thought, too, to affect the skin, and the sallow hue of the Parisians has been ascribed to the excessive use of coffee. The nutrient power of coffee is considered greater than that of tea, although this cannot be great in either, irrespective of the characteristic principles theine and caffeine—above mentioned, which, probably, are peculiarly beneficial to those who, either from necessity or inclination, consume much non-azotised, or vegetable food. In such individuals, who are often of sedentary habits, a deficient consumption of animal diet, and inactivity together, render the biliary secretion deficient, and these principles of tea and coffee are, according to Liebig, "in virtue of their composition, better adapted" to supply the—otherwise deficient—"biliary azotised principles, than all other nitrogenised vegetable principles." It is singular, that the above is supported by what we might almost call an instinctive habit among many of the poor in our own country, who are unable to procure animal, that is azotized food, but who will make every effort to procure tea and coffee; the custom is, and is no doubt felt to be, salutary. Coffee is more suitable, for most persons, for the morning meal, than tea, which is more likely to affect the nervous functions. A cup of strong coffee taken immediately after rising, is considered a good protective from the effects of malaria. In poisoning by opium, coffee is one of the most useful antidotes, but in this case ought to be *fresh*, pure, and strong, and taken without milk or sugar. The infusion of one ounce taken every twenty minutes is considered a suitable dose.

Coffee should always be infused, never boiled; when made with half milk, it is more nutritious for the weak, if it agrees with the stomach in this form. The adulterations of coffee are numerous; for that with chicory which is the most prevalent, the reader is referred to the article "chicory." According to the "*Lancet*," roasted wheat flour, and beans, mangel-wurzel, acorns, potato-flour, and a "coffee colourer" made with coarse burnt sugar, are likewise used. From what has been said respecting the properties of *pure* coffee, it is evident that none of the above additions or adulterations, although they may give the appearance of it, can add real strength to the infusion, or be in any way substitutes for coffee itself; indeed, it would be much cheaper, and more nutritious and wholesome, for the poor to make and drink good toast-water, than to spend their money on coffee so called, which in reality is half, or more than half, chicory, or something worse; for the chicory itself is very greatly adulterated. Coffee sold in "air-tight" canisters is always to be suspected. The only real security at present is, for persons to grind their own coffee, not too much at once, and to preserve both the whole berry and the powder in canisters, or wide-mouthed, well-closed bottles. In the West Indies, an infusion of raw coffee is used by the negroes, and found serviceable in promoting the flow of urine.*

Refer to—*Diet—Tea, &c.*

COLCHICUM.—*Colchicum autumnale* is the botanical name for the "autumnal crocus," found wild in many parts of England south of the Trent. The root and bulb and the seeds are both used in medicine, particularly in gout and rheumatism, but the drug requires too much care, and its improper use is too liable to produce evil consequences, to make it a safe domestic remedy, unless previously sanctioned by medical authority. In some persons particularly, it acts most powerfully upon the bowels, even in small doses. The preparations chiefly used, are the tincture, the wine, and the vinegar. According to Dr. Christison, two drachms, or tea-spoonfuls, of the wine of colchicum has proved a fatal dose. The symptoms produced by an overdose of colchicum are, vomiting, purging, colic, heat in the throat and abdomen, general depression, headache, and stupor or delirium. The remedies to be used until medical assistance is procured are, diluents, such as barley-water, linseed tea, or thin gruel, and laudanum or opium in some form.

Refer to—*Opium.*

COLD—is generally considered to be a negative result of the absence of heat, rather than an active principle; in consequence, however, of its energetic influence upon the living body, either in health or disease, it is usually spoken of as an active agent. The animated human frame is endowed with the power of maintaining a certain average temperature, which—except in rare instances—is higher than that of the surrounding medium, and this power is adequate to resist all ordinary impressions of cold; but when, from great intensity, or long continuance, and especially when combined with moisture, the depressing action of *cold* is much augmented, the powers of life sink, and disease or death is the consequence. This power of the living body to resist cold, is in great measure dependent upon the supply and proper assimilation of a sufficiency of nourishment; the ill-fed and the dyspeptic always suffer most from the effects of cold. But in order that full benefit may be derived from the power of food to protect against low temperature, particularly when at all severe or long continued, it is requisite that more or less muscular exercise—according to circumstances—be engaged in, for the purpose of quickening the functions of respiration, circulation, and metamorphosis of tissue, in other words, for the purpose of increasing the supply of oxygen taken into the system, and thereby facilitating the consumption of the internal fuel—see *Animal Heat*—either obtained directly from the food, or from the compounds carbon and hydrogen already existing in the body. This is no more than common experience testifies; for all know, that of two men exposed to a continued degree of intense cold, even if equal in other respects, should one persevere in muscular exertion, and the other give way to indolence or torpor, the former will be much more likely to survive the effects than the latter. And even under exposure to cold, not so immediately dangerous to life, and especially if combined with moisture, the most ignorant are aware that "as long as they keep moving," there is comparatively little danger of those bad consequences, which almost invariably result if rest is indulged in. In fact, as long as the muscular movement is kept up, the circulation, respiration, and change of tissue goes on with sufficient activity to maintain temperature adequate to resist the cold, which, however, prevails, as soon as inactivity permits the cessation of the resisting forces. Thus we have a point of every day experience confirmed, and its rationalé explained, by the researches of modern science.

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* Coffee.—A few coffee-beans thrown upon a red-hot shovel are an effective, and not unpleasant, corrective of unpleasant effluvia.

Coffee.—A strong infusion of coffee has been well spoken of as a useful auxiliary in the reduction of strangulated rupture.—See Rupture.

In northern latitudes, however, the internal means of resisting cold are of themselves insufficient for the purpose, and therefore, clothing, shelter, or habitations, and the production of artificial heat, are resorted to, and these, indeed, in some degree stand in the place of nourishment; for the man who is sufficiently well protected from the effects of cold, certainly requires a less supply of food to maintain health than he who is not. As regards food, habitations, and fuel, most who have it in their power, are inclined to use their protecting influences sufficiently; it is in clothing that the chief errors and negligences are met with, and the reader is referred to the subject itself, for their exposition. There may, certainly, be such over precaution in guarding against cold, that it is impossible to keep up the protection on all occasions, so that an accidental omission in dress, or exposure, after being habituated to air of too high a temperature, at once gives rise to disease; but the abuse is no argument for the non-employment of sufficient rational protection against the influences of weather, especially in latitudes like our own, in which a low temperature frequently prevails, and that, too, combined with moisture, whilst at the same time, the vicissitudes from heat to cold are often extreme and violent. It may safely be asserted, that a large proportion of the diseases to which the inhabitants of this country are liable, are, either directly or indirectly, the result of cold. It is sufficient to mention inflammatory attacks, general and local, apoplexy and paralysis, rheumatism and neuralgia, scrofula with its long train of disease, and consumption, as diseases, among many others, traceable to the influences of low temperature, to convince the most careless of the necessity of due protection against an agent so potent for evil. In many warm climates, the principal danger from cold is incurred by exposure to the chill dews of evening, after hot days.

The effect of extremely low temperature acting upon a limited portion of the body, is rigidity of the muscles, blistering of the skin, particularly from grasping metallic bodies with the bare hand, and frost-bite or death of the part affected. The *general* effect of extreme continued cold, is depression of the nervous system, of the functions of the respiratory organs and skin, deterioration of the blood, torpor, insuperable drowsiness, and death. In *case of frost-bite*, as of the fingers or toes, although the part may appear quite lifeless, pale and shrivelled; it may often be saved by proper treatment, and the principal thing to be attended to is, that the temperature be not suddenly raised; circulation, nervous power, and heat, must be very gradually restored, and probably the method followed in countries in which this accident is common, will be found safest and best, that is, continued friction of the part affected, with snow, till reaction is established, at all events friction should be used; after inflammation may be soothed by tepid poultices.

When in consequence of long exposure to extreme cold, drowsiness comes on, both mind and body must be exerted to keep off the influence; to indulge it is death; muscular motion must be kept up; if the individual is alone, and has a supply of alcoholic stimulant, brandy or wine, it ought to be resorted to when it is felt that otherwise the powers must give way; then, it may give strength to reach safety and shelter, but the greatest caution is requisite, before those who are exposed to severe continued cold have recourse to these stimulants; as a last resource they are invaluable, but their aid must be unsought as long as possible, for if resorted to too soon, the after depression adds fatal facility to the further depressing power of a low temperature. Experience proves, that those who are likely to be exposed to great continued cold, should provide abundant nourishment, particularly of a fat or oily character; they should never be without a flask of spirits, but never have recourse to it, except as a last resource. The sudden application of cold, even if it be not intense, may be very serious, in case the nervous powers are at all exhausted; of this, the cramp to which bathers are subject is an example, and likewise the fatal accidents so frequent during harvest, from persons drinking largely of cold water. The fatal effect is usually ascribed to the heated state of the body, but much is also due to the shock communicated to the stomach and its numerous nervous connexions, while the system generally is exhausted. The effect of cold, not extreme, but long continued, especially if combined with moisture, is one of the most fertile sources of diseases, some of which have been already enumerated. The young and the aged are more peculiarly liable to suffer, and for this reason require especial protection. The partial application of cold, particularly by a moving current of air, most generally produces disease of a neuralgic or rheumatic character, partial paralysis, especially of the face, or erysipelas. All these injurious influences are more readily exerted, if the body is at the time in a state of heated excitement, combined with nervous exhaustion the result of previous exertion, and at rest.

The partial application of cold and wet, may produce inflammatory action in the immediate vicinity of the part exposed, or as in the case of wet feet, in some distant organ.

The most effectual remedy for the effects of "a chill," is warmth with moisture, in the form of bath vapour or warm, or of hot bran bags, and the free use of warm diluent drinks, such as tea, gruel, &c., and in case of much depression, warm wine and water.

The use of cold as a hygienic agent, or in the treatment of disease, is invaluable. When, either as cold air or cold water, it is adapted in intensity and continuance, to the resisting power of the constitution, it is a most admirable tonic. When used to subdue certain forms of excited and inflammatory action, the temperature must of course be suited to the case, but ice-cold is most generally useful, care being taken, in the application of ice itself, that the part is not, as has happened, actually frozen or killed. Various forms of evaporating lotions, made with spirit, &c., are employed, but as the additions are made simply to increase the cold by increasing the evaporation, if a sufficient supply of sufficiently cold water can be procured, it is all that is requisite; the best mode of application is, by cloths dipped in the cold fluid, and renewed again and again by a *careful* nurse. When, from circumstances, this cannot be done, the next best method is, to keep up a continued system of irrigation, by means of a vessel of cold water placed a little higher than the part to be cooled, the fluid being conducted from the vessel to the part by bundles of woollen thread, or thin strips of flannel, care being taken, by means of waterproof material of some kind placed underneath, to carry off the superfluous water; in this way, the head, or a broken limb, may be kept constantly under the influence of a stream of cold water, without the necessity for constant attendance. There has always been considerable difficulty in the application of cold to the back of the head in a person confined to bed; this is now completely removed by the use of the vulcanized cushions of Mr. Hooper, of Pall Mall, which can be filled and refilled with ice-cold water as often as required, without disturbing the patient.*

Refer to—*Animal Heat.*

COLD IN THE HEAD, or CORYZA, is an inflammatory affection of the membrane lining the nostrils; it is accompanied with more or less fever. It commences with a sense of dry fulness or obstruction of one or both nostrils, which is quickly succeeded by watery discharge of an acrid character, and there is frequent sneezing. The membrane of the eyes and their lids, being continuous with that of the nose, is also affected, and from a similar cause, extension of the irritation to the membrane lining the frontal sinus, there is more or less headache. If simple cold in the head be not renewed, which it is extremely apt to be, it gradually subsides within the week; more generally, however, as it leaves the nostrils, it travels downwards into the lungs, and ends in catarrh, cough, &c., &c. Coryza is a concomitant of some other diseases, such as measles and influenza.

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* COLD.—Extreme cold, such as is produced by a mixture of equal parts of salt and pounded ice, may be used with safety to cause temporary loss of sensation in minor operations. The plan is one which might frequently supersede the employment of chloroform. In the removal of small tumours, the extraction of ingrowing toe-nails, the introduction of setons, and such like, the author has reason to speak most favourably of the practice. To Dr James Arnott is due the credit of being the chief promoter of "Congelation as an Anæsthetic," not only in operations, but also to allay the pain and promote the cure of neuralgia.

From its tendency to recur, and also to produce and keep up irritation of the lungs, coryza is not only not to be neglected, but should be checked at first, if possible, and for this purpose various methods of treatment are recommended. The injection of a solution of sulphate of zinc, five grains to the ounce—into the nostrils, at the *very commencement* of the disorder has been said to stop it without fail. A dose of opium either in the form of a large tea-spoonful of paregoric, of six or eight grains of Dover's powder, or quarter of a grain of muriate of morphia, when taken at bed-time, will often check a cold in the head at once; and the usual system of hot foot-baths, confinement to bed, low diet, and diluent drinks, along with diaphoretic medicines, such as spirit of mindererus, antimonial wine, &c., &c., is certainly calculated to mitigate the disorder, and may be followed with advantage. The following mode of treatment comes recommended by the high authority of Dr. C. J. B. Williams. He says—"it is the common practice to drink copiously of tea, gruel, or some other diluent during a cold; as long as this promotes perspiration it is of some utility, and although it augments the flow from the pituitary or nasal membrane, it has the effect of diminishing its acrimony by dilution. It is the acrimony of this discharge which reacts on the membrane, keeps up the inflammation, and its accompanying disagreeable symptoms. On this circumstance depends the efficacy of a measure directly opposed to that just noticed, but to the success of which we can bear decided testimony,—we mean *a total abstinence from liquids*. To those who have the resolution to bear the feelings of thirst for thirty-six, or forty-eight hours, we can promise a pretty certain, and complete riddance of their colds, and what is, perhaps, more important, a prevention of those coughs which commonly succeed to them. Nor is the suffering from thirst nearly so great as might be expected. This method of cure operates by diminishing the mass of fluid i the body to such a degree that it will n longer supply the diseased secretion. An thing that will contribute to reduce th quantity of fluid in the body will assi in the plan of cure and shorten the tim necessary for it to take effect. It is, therefore, expedient to begin the treatment wit an aperient, followed by a diaphoretic, as i usual, and this is the more necessary whe any fever attends; but beyond this, n further care need be taken, and the individual can devote himself to his usu employments with much greater impunit than under the ordinary treatment. Th coryza begins to be dried up about twelv hours after leaving off liquids; from that tim the flowing to the eyes, and fulness in th head become less and less troublesome; th secretion becomes gelatinous, and betwee the thirtieth and the thirty-sixth hou ceases altogether: the whole period of abstinence needs scarcely ever to excee forty-eight hours. It is then as well t return to the *moderate* use of liquids, as th first indulgence is apt to be excessive. I is not necessary to limit the solid food an more than to that which is plain and simpl except where there is an acceleration of th pulse, or gastric irritation, in which case animal food should be proscribed. For th sake of comfort in mastication, the foo should not be of the driest kind. Thic puddings and vegetables, with or withou meat, will be the best dinner; and toaste bread or biscuit *merely moistened* with te or other liquid, for other meals. A singl cup of tea is sufficient to bring back th coryza immediately, after twelve hou abstinence has removed it. We doubt n that it will be said that this plan of cu is worse than the disease, and so it may b in some instances. It may be called alwa a choice of evils; but we do not belie that any one who is liable to severe cold after once experiencing the amount of goo and evil resulting from this method woul hesitate between them, and it is for the that we make it known.

"We have never witnessed any evil fro this abstinence from liquids for the tim prescribed; but it is not unlikely that may do harm in persons with irritabl stomachs, or in those liable to urinary di orders. Moderation in liquid food whic may be assumed as a corollary from wh has been already said, is one of the be preventives against the bad effects of exposure to cold. When there is a large quanti of liquid in the system there must be increased perspiration, and therefore great risk from the effects of cold."

If coryza be not in itself a disease of importance, its tendency to frequent renewal, and as often as it is renewed to the reproduction of irritation in the lungs, renders it really a disease of consequence, and one not to be neglected. Moreover those individuals who are most susceptible to repeated attacks of coryza, are those who are most likely to suffer from frequent or continued irritation within the chest.

Refer to—*Catarrh*—*Cold*, *&c.*

COLD CREAM—is a pleasant cooling ointment, made by melting four ounces of white wax in a pound of almond-oil, by means of gentle heat, and mixing gradually with a pint of rose-water in a warm mortar.

COLIC—is the painful spasmodic contraction of the muscular fibres of the bowels, particularly of the colon, occasioned by the presence of an undue amount of wind, or of some irritating matter, such as accumulated feces, undigested food, acrid bile, over-doses of strong purgatives, or poison; it may also be brought on by exposure to cold. The pain of colic comes on and goes off suddenly, is of a rolling or twisting character, is referred chiefly to the umbilical or navel region, and is relieved by pressure; there may or may not be vomiting. In some cases of colic, the spasmodic contraction of the bowel is so complete and permanent, that inverted action takes place, and the fecal contents are vomited; to this form, the name of ileus, or iliac passion, has been given. The above symptoms distinguish colic from inflammation, the pain of which is of a more persistent burning character, and is aggravated rather than relieved by pressure; in the latter case, too, febrile symptoms are present from the commencement. The distinction is, of course, requisite for active medical treatment, but many remedies, which may be used safely and effectually to relieve the one, will also be beneficial in the other, and, indeed, in other spasmodic or inflammatory attacks within the abdomen, which might be mistaken for colic.

The sudden accession of an attack of colic, its peculiarly painful character, and the danger, that if continued, it may pass on to one of inflammation, renders immediate relief imperative. The first remedy is heat, either locally to the abdomen by bran bags or similar applications, as hot as they can be borne, or by the hot bath of the temperature of 100°, if not undesirable on other accounts. The use of heat if promptly and effectually carried out, will often of itself relieve the attack at once, particularly if it is the result of cold, but even should it do so, it will be well to give a dose of castor-oil, or rhubarb and magnesia, to ensure the freedom of the bowels from irritating matter; a few drops of laudanum being added to either medicine should the spasm shew a tendency to return. Should the pain not be relieved by the employment of external heat, as recommended, a warm clyster, temperature 102°, should be administered, and a cup of tea or of some unstimulating fluid, taken as hot as it can be swallowed. If the pain still remains, ten drops of laudanum must now be given, and repeated every quarter of an hour, until relief is obtained, or until forty drops, or even more, have been administered. If the case is violent, a clyster containing twenty drops of laudanum may be given. These means, if thoroughly carried out, will scarcely fail to afford relief until the arrival of medical assistance, which should always be procured, if the case is at all severe or continued; it may depend on causes which a medical man alone can discover or remove. Alcoholic stimulants are scarcely to be recommended for use in non-medical hands, not because they are not serviceable in colic, but because, should the case be mistaken, and prove one of inflammation, they would prove most injurious, which the remedies above prescribed could not. Still, in a case in which no doubt could exist, a tablespoonful of undiluted tincture of rhubarb, or a glass of hot brandy and water, with or without laudanum, are either of them good remedies.

Painter's colic, or dry bellyache, is a disease to which persons are subject who work much among lead; it is said also to be occasioned by new cider, &c., &c. It is severe colic, accompanied with obstinate constipation. The disease, either in itself or from concomitant constitutional affection, may prove fatal, and should always be treated by a medical man if possible. The treatment is much the same as that for common colic as far as allaying pain goes, but the obstinate constipation which accompanies it, requires the laudanum and other means to be combined with active purgatives, castor-oil, senna, compound colocynth pill, &c. Alum has been strongly recommended as a remedy in painter's colic. Much might be done by those engaged in employments connected with lead, to avoid, not only this, but other bad effects, by due attention to cleanliness, particularly of the hands at meal times. The use of lemonade, acidulated slightly with sulphuric acid, or of aromatic sulphuric acid, in water, would probably be additional protection. Lead colic has been induced in whole families, by the use of water, which acted strongly upon leaden pipes or cisterns.*

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* COLIC FROM LEAD.—It should be remembered that this affection may arise from the gradual introduction of lead into the system by means little suspected. A case has been narrated to the author, where one person was fatally affected, and another nearly so, by the long-continued and profuse use of snuff, which was imported, and kept for a considerable time in coverings made of thin sheet-lead. Many are unaware that a very pure water is more dangerous, when conveyed through lead, than one which contains a tolerable amount of saline impregnation.

Those who have once suffered from an attack of colic should pay particular attention to the bowels. A pill composed of one grain of extract of henbane, with two of compound colocynth and rhubarb pill, will be found a most suitable aperient.*

Refer to—*Alum*—*Lead*—*Water*—*Sulphuric Acid, &c.*

COLLAPSE—the term applied to a state of sinking or prostration of the powers of life.

† **COLLAR-BONE.**—See Clavicle.

COLLIQUATIVE—a term applied to any profuse exhausting evacuation, more particularly the diarrhœa and perspirations of pulmonary consumption.

‡ **COLLYRIUM.**—A Lotion for the Eyes.—See *Eye.*

COLOCYNTH, or Bitter Apple, is the fruit of a creeping plant, and is brought to this country, chiefly from the shores of the Mediterranean. An extract made from the dried pulp is used in medicine. It is a powerful irritating purgative, never used alone, and only likely to be employed domestically in its well known combination, the compound colocynth pill, one of the most universally useful purgatives we possess, of which the dose is from five to ten grains. Refer to *Pill.*

COLON.—The large bowel. See Alimentary Canal.

§ **COMA.**—A state of insensibility, resembling sound sleep, from which the person either cannot be roused at all, or only to partial consciousness. The condition is generally the result of pressure on the brain, either from injury to the skull, or from effusion of blood or watery fluid, or of matter, within the head. In apoplexy, poisoning by narcotic drugs, and complete alcoholic intoxication, the comatose condition exists, it may also be owing to exhaustion of the brain. In coma the action of the heart continues sufficiently perceptible, in fainting it does not. Refer to—*Apoplexy,* &c.

COMPLEXION.—The hue of the face. Much information may frequently be obtained of the existing constitutional condition, by observation of the complexion; but in judging, it is requisite to consider the original temperament, and the family descent of the individual. In fair races, such as the Anglo-Saxon, a certain amount of colour is usually associated with our ideas of health, and in some respects truly so; the reverse, a perfectly pallid face, can scarcely be consistent with a sound bodily condition. But colour may be too high at all times, and the capillary vessels of the face, partaking of the fulness of those of the body generally, may indicate that from some cause, such as over feeding, or indolenc combined with good digestive powers, tl system of the individual is too full of blood for the colour is not confined to the par naturally tinged, but is diffused over th face generally, and even the white of th eye is covered with distended vessels. Suc a state is one of danger, it is often accompanied with headaches, giddiness, confusio of thought, sleepiness, and when thes occur, apoplexy may be dreaded. A hig or brilliant colour, also, may accompan the consumptive constitution, but in thi it is very generally associated with a fin skin, and often with light or red hair, wit freckles, and also with a pearly or blueis appearance of the white of the eye. Thi appearance of high health is apt to deceiv the inexperienced; but the colour is generally not equal or persistent, it varies much being easily heightened by excitement, o depressed by the reverse, and it continue to add beauty even to the last stages of th hectic of consumption. In the dark haired and dark complexioned, colour is les commonly developed. The complexion c disorder or disease is very varied, it ma be muddy, pallid, pasty, white, sallow cachectic, yellowish green, and purple.

The muddy complexion may be th natural one of the skin, but it frequently accompanies dyspeptic ailments, and is directl dependent on depressed nervous power, an languid circulation of blood; it is mos strongly marked in the dark depression underneath the eyes. Whatever lowers c exhausts the nervous power, will produc this complexion, which may be seen i perfection, when the light of morning shine in, either upon the votaries of a too prc tracted dance, or upon the weary watchs beside the bed of sickness. Sleep is th best restorer of the exhaustion of nervou power, indicated by this condition of complexion; but if rest is impossible, it is on of those cases in which stimulant, hot te or coffee first, and then alcoholic stimulan is perfectly requisite. The pallid complexion is often the result of too clos confinement to the house, and especially c deficient exposure to diffused daylight— is well marked in miners. The pasty complexion accompanies the lymphatic const tution, and general laxity of the solids the subjects of it require a good allowanc of animal food, in preference to milk an grain preparations, puddings, &c., of whic they are often too fond. They almost i variably derive benefit from preparatio of iron. A marked white complexio not natural to the individual, is ofte indicative of serious disease, probably the kidneys or heart, and when it appears in persons advanced in life, the cause ought most certainly to be investigated by a medical man. The sallow complexion is very generally a natural one. The cachectic accompanies a diseased state of the system, and often of the abdominal organs—it is muddy, and accompanies emaciation of the features. The yellow complexion may be the bright hue of jaundice, or the muddy yellow associated with malignant disease, especially cancer. In the greenish yellow skin of chlorosis or green sickness, there is also extreme pallor of parts usually coloured—such as the lips. A purple complexion is indicative of deficient oxygenation of the blood, either from disease of the heart or lungs; generally of the former. *

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* Colic.—Refer to Cyder.

† Colliers—Disease of —See Appendix.

‡ Collodion.—See Appendix.

§ Colour Blindness.—See Appendix.

Refer to—*Skin—Countenance, &c.*

CONCRETION is a term applied to the unusual aggregation of any substance or substances within the body, most generally to intestinal concretions. Persons who have been in the habit of taking large and repeated doses of magnesia, have not unfrequently suffered from its concretion into hard lumps or balls in the stomach or intestines. Any substance which possesses the power of felting or matting together, is liable to form a concretion in the bowels; one has been found of ends of thread matted together, which the female had been in the habit of biting off and swallowing when at work; but perhaps the most common cause of the intestinal concretion is the felting of the bran of the oatmeal, as used in Scotland, when too exclusively employed as food, and in too dry a state. Well boiling and diluting, and mingling with other articles of food, particularly of an oily nature, is the best preventive.

CONCUSSION.—A term applied in medicine to the *effects* of a severe blow over some of the more important organs of the body, or on the body generally.

For concussion of the brain, see *Brain*.

Severe concussion of the chest affecting the heart, or over the region of the stomach, may prove fatal immediately, or at least produce much alarming faintness and collapse; in the latter case, the use of stimulants, such as ammonia or spirit internally, or stimulant clysters, and the dashing of a jug of cold water over the chest and face, immediately following it by hot applications, mustard, &c., would be the most appropriate treatment.

CONDIMENTS are substances which are not of themselves nourishing, but which are taken along with food as seasoning, and to promote its digestion. Salt is the most extensively used, and also the most wholesome condiment; to civilized man its use is second nature, and very many of the lower animals are not only fond of it, but seek it instinctively as a necessity, and improve in health and appearance when they have access to it. The vegetable acids, vinegar, &c., are useful and wholesome in moderation, particularly with oily food. The aromatics and spices, such as cayenne, white or black pepper, ginger, &c., can scarcely be called injurious, *if used in moderation*, to healthy individuals; in debility of the stomach they are often of service, and they seem especially adapted to counteract the effects of a warm climate upon the digestive organs, and also to the constitution, acquired or otherwise, of the inhabitants. They are, however, generally used along with vegetable productious.

Refer to—*Salt—Vinegar—Aromatics, &c.*

CONDYLE.—The extended extremity of a bone which forms the joint.

CONFECTION.—A term applied to medicinal preparations generally made with sugar. The most useful are almond confection, aromatic confection, cassia, rose and senna confections. Of these, the aromatic confection is the most useful and generally used preparation—It is thus made:—Take of cinnamon, nutmeg, saffron, of each two ounces, cloves one ounce, cardamous half-an ounce, prepared chalk sixteen ounces. Reduce these materials when dry, to a fine powder, and keep in a close vessel. Sugar to the extent of six ounces, may or may not be added to the preparation. †

Refer to—*Almond—Rose—Senna, &c.*

CONFECTIONARY, literally, "things made up," is not necessarily unwholesome, if used in moderation; it is, however, too often deleterious if made with much butter, when made of bad materials, or mingled with poisonous ingredients. Baked confectionary, in which the butter or grease is rendered empyreumatic and acrid by the heat employed in its preparation, is always liable to disagree, and especially so when, as often happens, bad materials are made up and disguised with flavours of various kinds, which are often in themselves unwholesome, particularly those so largely used, such as the oil of bitter almond, peach kernel, and laurel flavouring, which are actual poisons, when taken even in not very large quantity. Another flavouring ingredient, recently introduced, but already largely used, called "jargonelle pear," is not devoid of danger, and has been known to produce dangerous head symptoms in a child.‡ It is made from the fussel oil obtained in distillation from grain, potatos, &c. But perhaps the most numerous cases of injury have arisen from coloured confectionary and sweetmeats, a large proportion of which are tinged with deleterious substances; the greens with arsenite of copper or Scheele's green, verdigris, or a mixture of chrome and prussian blue; the yellows by chromate of lead: the reds by vermilion a compound of mercury, or by oxide of iron; and the whites by carbonate of lead, oxide or carbonate of zinc, chalk, or sulphate of baryta. The frosting of cakes, and the white sugar comfits, often contain a large per centage of plaster of Paris. These facts ought to be sufficient to make people very cautious in the use of such articles, particularly with children; and in case of sudden unaccountable illnesses, they should not forget the possibility of such causes. The colour of a sweetmeat would afford some clue to the nature of the poison, and reference to the proper article in this work will show the measures proper to be adopted, in the interval of procuring medical assistance.

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* Complexion.—The "Bronzed Complexion" is one which of late years has attracted attention among medical men, as indicative of a peculiar disease.—See Appendix—"Addison's Disease."

† Confection.—In the new Pharmacopœia, "Almond Confection" is changed to "Compound Powder of Almonds," and "Aromatic Confection" has a substitute in the "Aromatic Chalk Powder." The confections of black pepper, of scammony, and of sulphur, are all valuable preparations: there is also a confection of turpentine.

‡ Confectionary, Coloured.—See Appendix.

CONGESTION.—A morbid accumulation of fluid, such as blood, in its own proper vessels.

CONJUNCTIVA, is the membrane which lines the eyelids, and is folded from them upon the fore part of the eyeball, which it covers, extending over both the white and the clear portion, or cornea. In its ordinary healthy condition, the conjunctiva is a transparent membrane, with perhaps one or two tortuous vessels seen upon it.

Refer to—*Cornea—Eye, &c.*

CONSERVE is a compound of some fresh vegetable substance with sugar. The conserves are now classed with the confections.

CONSTIPATION.—See *Costiveness.*

CONSUMPTION, or **Pulmonary Consumption**, as its name implies, is a disease of the lungs, or at least one in which the lungs are more prominently affected than any other organ. In Britain, its fatality and frequency render it but too familiar, as year by year it numbers for its victims, the young, the good, and the fairest in the land.

Consumption is a portion only of a constitutional malady, which very frequently developes its intensity in the organs of respiration, but may do so in other modes, and in other organs of the body. Its constitutional nature requires to be impressed upon the mind of people in general; for regarded only as a disease of the lungs, alarm is not taken, nor are remedies generally resorted to, until its effects upon these organs become manifest; the antecedent period, in which the constitution is giving way, is overlooked, and that time is lost in which the first indications of disease might have been successfully attended to.

The causes of pulmonary consumption are all those which occasion debility generally, not excepting the most frequent of all, hereditary predisposition, that tendency to the disease which exists so strongly in some families, that no care or precaution can ward it off, nor prevent it seizing in succession member after member of a household. Fortunately, this intensity of hereditary transmission is not so very frequent, but there are few families in this country in which the tendency does not more or less exist; there are few which cannot number amid their deceased relatives some victim of consumption. With a susceptibility so widely diffused, it becomes a serious consideration with all by what this tendency is encouraged, and how it may be diminished. The first consideration that presents, is marriage. There can be no question that from errors in the contraction of this great engagement of life, much of the hereditary tendency to consumption is developed, and especially when the union is between parties nearly related by blood doubly so if the predisposition already exists in the family. Delicacy of either parent, particularly of the father, is very apt to entail consumptive tendencies upon the children; and the same follows if the parents are either too young, or if the father be advanced in life. The mistake is a very common one, that marriage and child-bearing act as a check upon the progress o consumption, and the step is often advised even to the comparatively young, with this view. The error is a serious one; nothing can be more trying even to a healthy female in this country, than having a family befor the constitution is formed; and most certainly it is so to the weak. It is true, apparent temporary amendment of consumptiv symptoms sometimes occurs, but the power of life are sapped by the too early call o their exertions. In the management of the children of even the most healthy parents doubly so of those who are the reverse, much may done either to weaken or to fortify the constitution, to pull down the one to the level of the scrofulous diathesis, which ripens into consumption, or to infuse int the other such strength and vigour that i may resist during a long life any development of the disease. For information respecting the management of children, the reader is referred to the article itself.

As the period of puberty approaches

care is required with all, but doubly so in the case of those who have displayed any scrofulous or consumptive tendency. The development of the body which is going on, requires a full supply of the most nutritious food, animal food particularly. The secretions should, if possible, be kept in healthy activity, and, more especially, all sources of exhaustion most strictly avoided; youths especially must be warned against the evil of prolonged physical exertion; and not less so against the mental efforts, which those, especially, who partake of the nervous and excitable constitution of the hereditary consumptive, are apt to give way to in competitions at school or college.

At any period of life, mental anxiety or over-exertion, intemperance, or dissipation, *the habitual breathing of vitiated air*, low damp situation, insufficient clothing, and exposure to the weather, or peculiarity of employment, particularly that which necessitates the inhalation of irritating matters, or any continued drain upon the powers of the constitution, such as suckling, may any of them develope or induce consumption.

Two very opposite conditions of physical development are found to exist along with the consumptive tendency; in the one, there is the fair fine skin and bright red complexion, the fair hair, the light eye, with its pearly looking white, and the tapering fingers; in the other, the dark hair and skin, the latter almost dirty-looking, and the swollen-looking upper lip. Consumption varies much in its initiatory stage; sometimes it steals upon the patient most slowly and imperceptibly, at others, developed probably by some acute attack, it appears to start at once into activity. Generally, for a considerable period before marked symptoms—or at least symptoms which attract general attention—shew themselves, the person has felt weak, languid, and *complained much of cold*, probably has sunk in flesh, and short dry cough has come on, apparently without cause, or there has been continued dyspepsia; if the patient is a female, the monthly discharge has become irregular, or stopped; it may be that these symptoms have been aggravated during winter, and disappeared partially or entirely with the advent of warm weather. Such symptoms may go on for a longer or shorter period, ebbing and flowing, but still gaining ground, or they may progress more unremittingly, though still slowly, or become suddenly aggravated by some adventitious circumstance, such as cold taken, some unusual fatigue, or the like; the emaciation becomes too evident to escape notice, the cough is unabated and becomes troublesome, the voice assumes a peculiar hollow sound, the breathing is quickened, and it may be that spitting of blood, profuse night perspirations, or even diarrhœa, have set in before the patient's condition excites either alarm in their own mind, or in that of their friends; indeed, it very frequently happens that the patient is the last to take the alarm, the last to entertain the idea of the fatality of the disease, of which this hopefulness of recovery is a well-marked symptom.

Threatened consumption is no disease for domestic treatment. On the first suspicion of its presence, the person should at once be examined medically: the above symptoms may excite alarm, may afford most grave ground for suspicion, not only to the friends, but also in the mind of any medical man, but their certainty cannot possibly be pronounced upon, without the physical examination of the chest, which well-educated medical practitioners only can conduct. By that the case may very generally be pronounced upon, groundless fears dispelled, or just apprehensions confirmed and acted upon, while yet there is time to save or prolong life.

As regards the prospect of recovery from consumption—for recovery does undoubtedly take place—much depends upon the original and existing constitution and the habits, past or present, of the individual, and the worldly means within his power.

If the disease has become established in an individual of strong hereditary tendency to it, or in one who has broken down his constitution by dissipation or intemperance, or who is the subject of some other debilitating disease, hope of amendment can be but small; if, on the contrary, the affection is more probably induced, rather accidental than the result of original constitutional tendency, the probability is, that under proper management, and with the aid of the great curative powers of cod-liver oil, not only amendment, but permanent recovery, may be obtained. When consumption has advanced beyond its first stage, all the symptoms already mentioned are increased, the cough and perspirations particularly become more distressing, and the tendency to diarrhœa, frequently with severe spasmodic pain in the bowels, notably increased, expectoration is often difficult, either from weakness, or from viscidity of the expectorated matter, the hair falls off, progressive emaciation continues, and before death the skin of the most prominent portions of the back is apt to become ulcerated. The disease, however, may be terminated earlier by sudden bleeding from the lungs, by an acute inflammatory attack, or by giving way of a weak constitution. Its ordinary duration is about nine months. Amid the other symptoms of advanced consumption, a peculiar broadening "clubbing" of the extremities of the fingers, with incurvature of the nails, is often observable, and recent observations have been directed to the occurrence of a peculiar pink-looking marginal line at the junction of the gums with the teeth, which occurs in some cases.

The prevention of so fatal a disease as consumption, is a more important subject in a work like the present, than its treatment; and in those predisposed, the preventive or "prophylactic" system must be continued life through, even into old age. *It is a popular error, that by the time middle life is reached, the liability to consumption is over.* Such is not the case, for even the "threescore and ten" is sometimes terminated by the disease. According to the tables of Sir James Clark, it appears "that the greatest number of deaths from phthisis (consumption) happens between the ages of 20 and 30; the next greatest number from 30 to 40; the next from 40 to 50, and many even up to 70 years of age; more women than men, on the average, dying from the disease. It has already been remarked what a potent influence hereditary predisposition towards consumption exerts, and how strongly this predisposition may be developed or increased in a family by marriage union. People will marry, whatever their constitutional predisposition; but if either their own constitution or that of their family generally is at all consumptive, it ought to be a very weighty consideration with them, that the union should be with one as little inclined towards the disease as possible. When the children in a family evidently inherit or display consumptive tendencies, in addition to the precautionary measures already enumerated in the article "Children," it should become a question, how far permanent removal to a more genial and dryer climate than that of Britain, might be desirable. To the rich, who have it in their power to change their residence as and when they may, the consideration is perhaps of less immediate consequence; but to the labourer, the mechanic, or the man of small income, it must be a question of paramount importance, whether, by emigration to such a climate as that of Australia, he may not only save himself the constant sorrow, actual and anticipated, of seeing his family drop one by one into their early graves, but also save the constant pull-back upon his exertions, and drain upon his resources, which a sickly family necessarily entails. But, indeed, in any condition of life, the question of tendency or not to consumptive disease, should always influence the choice of field for exertion, and not only of field but also of the nature of the business of life Any occupation which renders the inhalation of irritating substances unavoidable, is to be eschewed by the consumptively inclined man, and not less so, that which involves confinement in a constrained position, or in a close room. Of the former class, grinding or polishing of metal or stone, especially if dry, flour-grinding, &c. are examples, of the latter, the occupation of the tailor, the shoemaker, the seamstress, or the compositor. The most eligible employments are those which require muscular exertion of not too exhausting a kind, and without too great exposure to the weather; the gardener, the carpenter, the butcher, the farm servant, are all less likely to be the victims of the disease. In whatever situation or grade of life, however, a person may be placed who is predisposed to consumption, much may be done to keep up the powers of resistance, by keeping upt he general health to the highest possible standard, by diet, early hours, attention to the skin, and avoidance of all kinds of dissipation and intemperance; smoking tobacco should be shunned as particularly injurious. Regular exercise is to be taken—the chest and shoulders should be bathed every morning with cold salt-water, and rubbed afterwards to promote reaction. Cheerfulness of mind, and moderate mental exertion are important, whilst perfect temperance in the use of alcoholic stimuli is indispensable, but any change to their total disuse cannot be made in many cases without danger. All the usual sources from which "cold is taken" are to be shunned, particularly wet feet, sitting in damp clothes, crowded ball-rooms, and public assemblies; and, lastly, when exposure to cold air, especially to east winds, or to the foggy atmosphere of night is unavoidable, the protection of a respirator of some description should be resorted to.

The question is often mooted with respect to the communicability of consumption from one person to another. That it is no generally communicable is certain, that i has been thought to be so under circumstances of predisposition, and when there has been close communication between two persons, should be sufficient to caution other members of a consumptive family from hanging too much over one affected with the disease, and certainly, in any case forbid the occupation of the same bed With respect to the treatment of consumption, little remains to be said; it can neve be an emergency, and the first suspiciou symptoms should be the signal for obtaining proper medical advice; if the disease is really threatened, the well-conducted treatment of a competent medical man can alone be trusted to. In the progress of consumption, however, there are many painful symptoms which may be alleviated by measures independent of the treatment of the disease properly so-called.

As regards diet, there is the greatest variation, some patients being most comfortable with a milk or farinaceous diet alone, whilst others require the constant use of stimuli, wine or porter, and consume animal food in good quantity. For allaying the troublesome cough, demulcents of various kinds may be tried with or without the addition of small doses of morphia, laudanum, paregoric, or Battley's sedative solution. When tendency to perspiration exists, and there is no diarrhœa, the following is a very useful and palateable mixture, which allays both nervous irritability and cough: Take of muriatic acid thirty drops, muriate of morphia one grain, refined sugar two drachms, water six ounces; of this mixture, a table-spoonful may be given every few hours. In the later stages, when the cough is partly spasmodic, and expectoration difficult; much relief is often experienced by the inhalation of steam, along with the vapour from a few drops of sulphuric ether, put in the boiling water. The perspirations may be kept in check by fifteen drop doses of dilute sulphuric acid in a wine-glassful of water; but when diarrhœa is present, this cannot be persevered with. To relieve diarrhœa, the abundant use of isinglass or gelatine will be found serviceable, also chalk mixture with opium; five-grain doses of oxide of bismuth, with a quarter of a grain of powdered opium, is often a useful remedy. Acetate of lead, gallic acid, &c., are also used, but scarcely likely to be so domestically. In case of sudden bleeding from the lungs, refer to *Hæmorrhage*.

Refer to—*Chest—Children—Lungs—Respiration—Respirator—Scrofula—Temperament, &c.*

CONTAGION is sometimes used to express the actual agent by which disease is propagated; but more generally the propagation itself. Properly speaking, the term ought to be confined to the propagation of disease by actual contact, in contradistinction to infection; but it is now used in the more extended sense of "infection" likewise. Contagious diseases may be communicated only by actual contact of individuals, as in the case of itch, &c.; by inoculation, as in the case of cow-pox; or in addition to both or either of these modes of transmission, through the atmosphere by infection, as in the case of small-pox, &c.

This power of propagation through the atmosphere, however, does not, independent of epidemic and endemic influences, extend far from the patient. Certain circumstances influence the extent of contagious diffusion. Of these, the most distinctly ascertained are atmospheric impurities; for it is ever observed, and we believe it may be predicated of every disease possessing the property of remote contagion, that its contagious matter is propagated to greater distances in a dirty, crowded, and ill-ventilated apartment, than in one of which the air is pure. The same principle applies to articles of dress and furniture; those which are contaminated by animal secretions and effluvia, being much more readily impregnated with contagious matter than those which are clean. Peculiar atmospheric conditions certainly, also, favour the propagation of disease by contagion; sometimes these conditions are inappreciable, at others they are evidently connected with a superabundance of warmth and moisture; and also we have good reason to conclude, with certain states of electrical disturbance. The discovery of the new agent, or modification of the known existing agent oxygen—named ozone—may probably shed some new light upon the subject of contagion. Actual contact, however, or even immediate vicinage, to a person labouring under a contagious disease, is not requisite for its propagation to others; this may be effected by means of substances to which the contagious matter clings; these substances, which go by the name of fomites, are more generally clothing and stuff furniture which have been about or near the bodies of those labouring under the disorder. These fomites are apt to be impregnated with the poison in a very concentrated condition, and are capable, not only of retaining it for a long period, but of transporting it from place to place. A sofa on which a patient labouring under scarlet fever had lain, has been known to propagate the disease six months afterwards; and clothes which have been about the sick are constantly ascertained to have been the media of conveying fever, &c., to distant localities. Wool and cotton seem particularly apt to attract and retain contagious emanations; but, indeed, all loose textures appear to have the property, whilst on the other hand, polished and hard surfaces and substances, are much less likely to act as fomites, if they do so at all. Everything of unnecessary drapery or clothing should be removed from the chambers of those sick of contagious maladies, or, indeed, of any malady; for a sick chamber must always, in a lesser or greater degree, have an atmosphere containing unhealthy emanations, which it is expedient, both for the good of the patient and of others, should find no unnecessary attractions or lodgments. Further, it is advisable to have the furniture as much as possible of hard and polished substances; and the dresses of those in attendance upon the sick, especially if habitually so, might with advantage be made with a glazed surface.* Those substances which have necessarily become the fomites of contagious matter, ought to be scrupulously freed from it by complete and lengthened exposure to the open air, by washing, or by exposure to the fumes of chlorine in a close apartment; or by all three, the chlorine fumigation being first resorted to. Indeed those persons under whose management a case of contagious disease has occurred, ought, as a christian duty, to make sure that every article of stuff, furniture, clothing, &c., has been fully and carefully purified before others, either in the way of social intercourse, or in occupation, particularly that of the washerwoman, come into contact with them. The following is the most systematic course of action when the generation of contagious matter has ceased in an apartment, either by the death or recovery of the patient, premising of course, that throughout the illness measures have been or ought to have been resorted to to preserve purity. During the day, the door being shut, the windows should be open to their full extent, and the infected articles freely exposed to the air; during the night, the windows and door being closed, chlorine should be well diffused through the apartment; this having been repeated, if possible, for two days and nights, all textile fabrics and the like should be removed; those that are capable of being washed put into cold water, others placed in the open air. All articles of furniture left in the room, also the floor and oil-painted wood-work, should be well scoured If the chamber be a white-washed or coloured one, it should be "re-done;" if papered, it is only a safe precaution to re-paper it. The bed requires the greatest amount of care; if of wool, it is better destroyed altogether; if of hair or feathers, these should be exposed to the heat of re-baking, that is, at least to a temperature of 210° Fahr.; and the ticking either thoroughly fumigated and washed, or entirely renewed. These directions may appear minute and troublesome, but they are far from being too much so when put in comparison with the fearful scourge o a contagious disease which has establishe itself in a household or community, an which perhaps might have been checked a the outset by the adoption of prompt an vigorous measures. The poor and th ignorant cannot or will not adopt, in mos instances, effective precautions; it remain for the rich, for the well-informed, to poin out their necessity, and lend a helping han to their fulfilment, not only as an act o christian charity, but as a means of safet for themselves; the disease which takes it origin in the cellar of Lazarus, not unfrequently ends by establishing itself in th mansion of Dives. It is not a necessar character of contagious disease that it ha itself sprung from contagion—some of th most virulent and spreading fevers, such a those of the ship, or of the old jails, had n such commencement; but had their origi in the decomposing emanations from th bodies of numbers of individuals confine in unventilated and insufficient spaces. I addition to the disinfectants already mentioned, air, water, and chlorine, many other are and have been used, such as the vapou of vinegar, of pitch, or of tobacco or camphor; large fires also used to be a favourit method; none of these last-mentioned are t be depended upon. The vapour of muriati acid, and the absorbing properties of newl slaked lime may be resorted to in the absence of chlorine with advantage. In man instances, particularly in the case of clothes and other textures which will not wash heat might be used more extensively tha it is at present as a disinfectant. The experiments of the late Dr. Henry, of Manchester, proved that whilst the variou textile fabrics might be exposed to a hea of at least 212° Fahr. without injury; thei power as fomites, or of propagating contagious disease, after having absorbed th emanations, is destroyed by the high temperature.†

Refer to—*Air—Bedroom—Chlorine, &c.*

CONTUSION.—See *Bruise* and *Concussion.*

CONVALESCENCE is the transitio period between the cure or cessation o severe disease, whether acute or chronic and the re-establishment of health. Th commencement of convalescence, or th point at which the characteristic symptom of disease cease, is sometimes distinctl marked, more especially after acute disorders; frequently, however, the tendenc towards health, particularly after chroni disease, is much more insensibly established; in the latter case, too, the progres of the convalescence is slower than it is i the former. Its rapidity or protraction, moreover, is much influenced by age, and the nature and treatment of the previous malady. Children convalesce rapidly, old people the reverse; but in all cases the natural power or resiliency of the constitution exerts much effect. In no case, perhaps, is convalescence more tardy and unsatisfactory than after illness in which much loss of blood, or of its constituents, has taken place, either as a consequence of the disease, or of blood-letting in the treatment of it. Since, however, the practice of abstracting blood in large quantity by the lancet has been modified, there are fewer cases of protracted convalescence from this cause.

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* CONTAGION.—Amid other suggestions, Miss Nightingale counsels the banishment of carpets from sic rooms generally.

† CONTAGION.—See Appendix—Disinfectants, &c., &c.

When convalescence from acute disease commences, the previously quick pulse falls to the natural standard, the tongue begins to clear, the skin becomes cool, sleep is refreshing, the mind acquires a more healthy and hopeful tone, and the person *looks* better. There is nothing which more assures a medical man of the condition of his patient, than the look, the expression of the countenance, to which the first glance, as he enters the room of sickness, is almost instinctively directed. The look of convalescence is tranquil, placid, not the heightened colour and bright eye of hectic, which so often deceives the inexperienced with delusive hopes. When the brain has been much affected, however, the condition of the mind, and consequently the countenance, assumes its natural look more slowly.

The management of convalescence is extremely important; errors in this respect frequently expose the already weakened patient to attacks of other disorders, or induce relapses to the diseased actions which had just been cast off. The convalescence after some particular diseases is more liable to such accidents than it is in others. That after fever is peculiarly so, and after scarlet fever, the tendency to cold and its consequences, dropsical swelling, and affection of the kidneys; is so very common, and so frequently fatal, that the greatest possible care is requisite. During convalescence from acute disease, and especially of an eruptive character, many of the disorders characteristic of the scrofulous constitution shew themselves: the eyes become the seat of chronic inflammation, purulent discharge from the ears occurs, and chronic eruptions shew themselves upon the skin, of the head especially. Moreover, these disorders, now, perhaps, for the first time apparent, are apt to continue even after convalescence, properly so called, is over. Further, relapse in convalescence often occurs from too soon employing actively the previously affected organ; the liability to this mishap must be evident to the common sense of every one. In the case of the eye, it is evident to the senses, after inflammation of that organ, its undue exercise, or even its exposure to full daylight, will often be followed by a return of the disease. Such is the case elsewhere, and whether it be the eye, or the brain, or the stomach, which has been affected, return to the ordinary exertions of health must be made with the greatest caution.

The clothing of a convalescent patient requires particular attention; there is much susceptibility to cold, and to atmospheric vicissitudes. For the requisite information, the reader is referred to the article "Clothing." General exercise is to be resumed cautiously, and should never be carried to the extent of fatigue. Diet, however, is the great source both of error and mischief, the greatest difficulty which the medical man has to contend with; that is, in getting it properly attended to, and his orders properly carried out, particularly among the poor. Whilst disease is in progress and alarm is felt, directions are tolerably well, or indeed strictly, obeyed; but no sooner does the patient begin to get better, than irregularities commence. The popular idea seems to be that convalescence must advance in proportion to the amount, and often to the stimulant qualities of the food given; and many a hopeful case sinks back into fatal relapse, from the wilful and injudicious kindness of friends. The point is one which requires to be strongly enforced, not only on the minds of the poorer and more ignorant, but on those of people generally, that in diet, as in everything else, convalescence must be gradual, and that nothing is more dangerous, more likely to induce relapse, than the injudicious use of solid animal food, or of stimulants. Milk, and the various farinaceous preparations with which it is usually combined, such as arrow-root, sago, rice, bread, &c., is perhaps the most generally useful article of diet in convalescence; next come the teas made from fowl, mutton, veal, or beef, alone, or mixed with some of the farinacea; next in succession, eggs lightly boiled; and lastly, solid meats, of which tender mutton is probably the best, are to be permitted. Ripe fruits in their season, if not contra-indicated by the nature of the previous disease, and if they do not occasion flatulence or diarrhœa, are both grateful and serviceable. If alcoholic stimulants can be dispensed with, it is the safer plan, and when requisite, the time of their employment, and the kind used, is best left to a medical attendant. A good deal must depend upon the previous habits of the person. Gin, in cases in which the urinary secretion is deficient, is most suitable; or light sherry, if the circulation is excitable; and port wine or porter in extreme debility. One of the most useful of the alcoholic stimuli, in convalescence, is the bitter India beer or pale ale; the amount of alcohol it contains is not large, its bitter exerts a beneficial tonic effect upon the stomach, whilst the narcotic principle of the hop tranquillizes the nervous system, often so painfully irritable. In whatever form nourishment is given to the convalescent, it should be in small quantity at a time, but as frequently repeated as natural appetite requires. The atmospheric purity of the chambers occupied by persons recovering from sickness, requires great attention, and the temperature ought to be kept as nearly as possible about 58° Fahr. Lastly, when convalescence has reached a certain point, there is no remedy which so surely promotes perfect recovery, and confirms health, as change of air. Almost any change is beneficial, but in many cases much more advantage would be derived, if persons thus seeking health acted upon competent medical advice. It is to be regretted, that so many of the accessories which promote speedy and certain convalescence, have hitherto been unattainable by the poorer classes in this country. Care, and good nursing, and the highest medical skill in the country are bestowed upon the poor inmate of the hospital up to a certain point, and convalescence is barely established, when too often the patient has, in order to make room for others, to leave the comfortable home of his sickness, with all its nourishing food, and its comforts, and return to scanty nourishment, exposure to weather, and to an unhealthy home. In a climate like that of Britain, the point is one which requires more attention than it has hitherto received. Proposals for the establishment of convalescent villages have certainly been made, and some steps have been taken towards providing convalescent stations; but an immense deal requires to be done before the want is supplied, and charitable bequests and donations might be worse directed, than into such a channel.

Refer to — *Air* — *Bedroom* — *Clothing* — *Cookery*—*Diet*, &c.

CONVULSIÒN is a state of alternate violent contraction and relaxation of the muscles, independent of the influence of the will; those under its direct control are most frequently affected, but not invariably so; the muscular fibres of the stomach, and other involuntary muscles, are often the seat of convulsion, but in this case the term spasm is generally applied to the disorder. Convulsions are classed by medical men as "tonic," or those in which the state of contraction is maintained for a considerable period without alternation with relaxation, and as "clonic," or those in which the two states succeed one another with more or less rapidity. When the relaxations and contractions are very slight, and very rapid, the condition is tremor. The first of these, or the tonic convulsion, occurs in lock-jaw in its most perfect form; the second, or clonic, in hysteria; the third is seen in the persons of hard drinkers when not under the influence of their stimulant.

Convulsions may be either general or partial, affecting only the muscles of the eyes or eyelids, of the face, or of one of the extremities, or of one side of the body, or they may shake the whole frame in convulsive agitation, such as occurs in epilepsy. Some of the most characteristic local convulsive actions occur in the muscles of the face, causing squinting, &c., &c., or the peculiar "sardonic smile," or grin, which is caused by forcible retraction of the corners of the mouth, exposing the teeth.

Sometimes an attack of general convulsion is pre-warned by a local affection, the eye is unnaturally turned, or the thumbs, as often occurs in children, drawn across the palm of the hand; or hiccup, which is a convulsive affection of the diaphragm, precedes the more widely diffused affection. In partial convulsion, the mind is probably unaffected; but when the affection is widely distributed, or general, there is frequently no outward sign of consciousness, and when the convulsion ceases, and consciousness does return, there is no recollection of the past paroxysm.

An attack of convulsion may come on suddenly, without any previous warning, but more generally it is preceded by symptoms. If in a child, there has probably been disturbed and moaning sleep, starting, screaming, grating of the teeth, peevishness, heaviness about the eyes, or squinting, or rolling of the ball in sleep, and a disordered condition of the bowels; if in an adult, dreaming and unsettled sleep have occurred, headache, noises in the ears, disturbed and clouded vision, giddiness, nervous fears, loss of memory, and confusion of mind, have accompanied disorder of the digestive organs, a tendency to vomit without obvious cause, or colicky pains in the bowels, hiccup, and cramps in the hands or feet, have been the premonitors, and just before the accession of the paroxysm, a creeping sensation or "aura" is often felt to extend gradually from an extremity up to the head. In one of the most terrible and protracted successions of convulsive attacks the author ever witnessed, each paroxysm could be distinctly traced, commencing in one toe, gradually extending up the limb, and trunk, until the whole frame was fearfully agitated. In such cases the convulsive movements of the limbs, and the distortion of the features are truly terrible to witness; but there is every reason to suppose that in many instances, and it is a great consolation to do so, the trial is to the spectators, and that the cerebral disorder which causes such violent commotion of the body, extinguishes for the time any consciousness of suffering. Of course when the mind is unaffected, as it is in lock-jaw or tetanus, or in hydrophobia and other cases, the pain of the convulsion is severely felt. The length of time a convulsion continues, may vary from a few minutes to many hours, but generally the period is short, the paroxysms returning after intervals of cessation. The fit of convulsions may terminate in apoplectic stupor, in a state of extreme nervous exhaustion, in lethargy, or in prolonged sleep. For some time after, there is usually much languor, both physical and mental, and the faculties of the mind are confused and incapable of being exerted. There may remain permanent lesion of the nervous functions, such as paralysis, or disordered nervous action, such as St. Vitus's dance; a squint often dates from an attack of convulsions in childhood. In some cases bleeding from the nose or ears, or vomiting, or diarrhœa appear to terminate the attack.

Convulsions are the result of a great variety of causes. The brain itself may be the organ primarily affected; there may be disease of its structure, or pressure or irritation exerted upon it, by disease or accident; there may be too great determination of blood to the head, or the reverse condition may exist, and the supply of stimulant blood to the brain may be inadequate. But convulsions quite as frequently arise from irritation of distant organs affecting the brain and spinal cord; in childhood, the irritation of teething is a most prolific source of convulsions, and perhaps not less so, irritation of the stomach and bowels; causes which might, in the adult, produce transient headache, in the susceptible nervous system of the child may cause convulsion. In females, irritation connected with the generative system is a frequent source of convulsive action, and, indeed, one of the most formidable phases of the disorder occurs in the process of child-birth. Strong mental emotion of any kind, such as joy, fear, &c., &c., are apt to cause convulsion. Suppression of accustomed discharges likewise are often followed by an attack of the malady. Worms in the intestinal canal cause it; and the onset of acute disease, small-pox in particular, but also febrile disease of any kind is, in many instances, heralded by an attack. In fact, with those who are susceptible, there is scarcely an agent, from a carious tooth or the scent of a flower upwards, which has not the power of exciting convulsive action — or something nearly approaching it—of the human frame.

Some persons are much more liable to be affected than others, and children, as a general rule, especially so; it is therefore very important, that the premonitory symptoms, either in them or in individuals of excitable temperament, should be carefully noted and attended to, and the exciting cause, if possible, discovered and removed. In children, the state of the gums, and of the secretions from the bowels, are especially to be watched; the first may require lancing, or the second clearing out by an active purgative, such as calomel and scammony; but when, from the occurrence of warning symptoms, and especially if the child, or any other member of the family, have previously suffered from convulsions, an attack is supposed to be impending, medical advice should be procured. A point of great importance to be determined is, whether the disordered condition is connected with excess or deficiency of circulation in the vessels of the head and spine; for if the former, it is evident that the lowering treatment which it requires, must be injurious should the latter condition prevail, for this must be corrected by tonic medicines, or even by the exhibition of stimulants such as sal volatile, or brandy in minute quantity It must be clear to all, how important it is, either in the prophylactic or in the actual treatment of convulsions, whether in children or adults, that this point should be clearly ascertained. And as it is one which sometimes requires considerable medical acumen and experience satisfactorily to determine, it must be equally clear, that it must render non-professional interference in such cases a matter of hazard, and not lightly to be undertaken; at the same time, the sudden and alarming nature of convulsive attacks, renders it necessary that some means of discrimination, and some safe rules of treatment, should be known to all who are likely to be appealed to in such cases, particularly if resident in places far removed from immediate medical assistance, and it is reiterated that the two opposite states must be kept in mind, the one arising from excess, the other from deficiency of circulation, and the treatment modified accordingly.

If convulsion be threatened in a child of full habit, with firm flesh and good colour; if teething is going on, the gums must be looked to, and lanced if requisite, the bowels may be freely purged with calomel and scammony, or with grey powder at night, followed by senna in the morning, the diet being at the same time reduced; and should there be much heat about the head, and the symptoms remain unabated, leeches—one, two, or more, according to age—may be applied to the temples, and cold to the head generally. If, on the contrary, the child, even though fat, be pale, and the flesh loose, and if it is of feeble habit, anything like lowering must be avoided; the gums ought, of course, to be attended to, and if the bowels are disordered, the secretions must be gradually corrected by a couple of grains of grey powder, given every night at bed-time, and, if requisite, a small dose of castor-oil in the morning; likewise, in either of the above cases, an antacid will probably be of service, such as three or four drops of potash solution, or a tea-spoonful of fluid magnesia, in the milk food, given twice a-day. In judging of the energy or weakness of the cerebral circulation in infancy, as long as the opening of the head is unclosed, it affords a guide to judgment. When at this point, the scalp and subjacent parts appear depressed, the condition is one in which anything like lowering measures are inadmissible. *Keeping the already given cautions in view, and remembering how often, both in child and adult, convulsion is threatened in consequence of irritation, not in the brain or spine, but at a distance from them,* when it is suspected that an attack is impending, and when medical assistance cannot be at once procured, attention should be directed to any possible source of irritation, and should any such be found, its removal *should, if possible, be effected.* If no appreciable source of irritation is discovered, to which symptoms of threatened convulsion can be referred, and if the brain itself be suspected to be in fault, the same cautions respecting excess or deficiency of vascular action must still be remembered. If plethora is undoubted, if the individual is of full habit, florid, and with a strong pulse, leeches and cold to the head, and free purging, with low diet, may be resorted to with every prospect of advantage; on the contrary, if the habit is feeble, the more negative system will be most safely pursued; the bowels must be regulated but not purged, the diet attended to as regards digestibility, not lowered, and every source of nervous exhaustion, either fatigue of body or mind, or of a sexual character, most scrupulously avoided. If the extremities are cold, as they often are, their warmth must be preserved; if the head is hot, the moderate use of cold will allay nervous excitement, as well as vascular action. Provisional measures like the above, will, if used with judgment, be most valuable even in unprofessional hands, but they are not to supersede medical examination, which *must* be submitted to.

In the *treatment of an attack of convulsion* the above directions must equally be borne in mind and acted upon. *When a child is seized with convulsions* the most generally available remedy is the warm bath, and if used with judgment it is a good one. The temperature should be 98°; if the child is strong and plethoric, it should not be immersed above the waist, and while in the bath, cold should be applied to the head; if the child is weak, it may be put in the water above the shoulders, in either case the immersion is to be continued for twenty minutes. The gums are to be lanced if requisite, and leeches applied to the head under the cautions already given as to the abstraction of blood; and under the same cautions, purgatives are to be resorted to, either the more powerful ones of calomel and scammony, or calomel and jalap, or senna, or indeed the first efficient medicines of the class at hand, or the milder agency of castor-oil; in addition, an aperient clyster may be administered with advantage. When the child is taken out of the bath, it should at once be wrapped up in warm blankets, and laid in its cradle, or in bed, and cold used to the head, or not, as thought well, and if the fits still continue, mustard-plasters made with half oatmeal may be applied to the legs, but must be removed as soon as the skin is well reddened.

When an adult is seized with convulsions, the treatment, conducted upon the same principles, must be very similar to that recommended for a child, with exception of the bath, which cannot be conveniently used; in its stead, a warm bed, with hot applications to the feet, limbs, &c., must be substituted, and mustard-plasters may be used more freely. If there is much heat or excited action about the head, it should be shaved, or the hair cut close off, and cold or iced applications freely employed. In following out these directions, the non-professional will be doing much, indeed all they can legitimately, to relieve during the

Convulsions—Whether in child or adult, if there is any suspicion that the stomach itself is loaded or irritated by injurious food, an emetic is of course indicated; mustard will often be the readiest. but Ipecacuanha is preferable for children, in an average dose of five grains for a child of four years of age.

longer or shorter interval that must necessarily elapse before the case is seen by a medical man. Lastly, it must be borne in mind that convulsions are not unfrequent in extreme intoxication, and also in poisoning from narcotics, such as opium, their occurrence from such causes would of course materially modify the treatment. In children particularly, they are unquestionably the frequent result of the administration of laudanum, and more frequently still of quack soothing and carminative medicines and elixirs.

Refer to — *Apoplexy* — *Bath* — *Children* — *Clyster* — *Croup* — *Spasmodic* — *Head* — *Lock-jaw* — *Spasm* — *Teeth* — *Worms*, *&c.*

[*]**COOKERY** for the sick and convalescent. The best methods of preparing suitable nourishment for the sick is a matter of so much consequence, that its consideration here cannot be out of place. Its importance is, perhaps, scarce sufficiently appreciated by any class; and amongst the poor almost total ignorance prevails respecting it. Even when the needful materials are abundantly provided, still, things are prepared in such a barbarous and uninviting fashion, that the fastidious appetite of an invalid turns loathing from them; and this, simply from lack of knowledge, or of attention in preparing. Constantly is the medical man told—"I could eat, but I cannot fancy such food as we have here"—and this, when material is amply provided, but nicety wanting.

The reader is referred to the separate articles which treat of the various forms of food for further information; but the following recipes are a few of the most directly useful,

Sick-room Articles of Diet—and here, it may just be hinted, that neatness in serving up, as well as care and perfect cleanliness in preparing, makes sick-room cookery more likely to be attractive to an easily-offended appetite.

Arrow-Root.—Not quite a table-spoonful of arrow-root powder is to be mixed slowly and smoothly in a basin with a little cold water—and when done, a pint of boiling water added; it should then be sweetened to taste, and put on the fire to boil for five minutes, stirring well the whole time. If wine is permitted, it should be put to it after the arrow-root is poured into the basin. The same quantity of arrow-root is a proper one, when it is prepared with milk instead of water.

Oatmeal Gruel.—A dessert-spoonful of meal must be mixed smoothly with two of cold water—a pint of boiling water poured on, and the whole boiled on the fire for ten minutes, well stirring for the time—sugar, or pepper and salt, being added, as may be agreeable to or proper for the sick person.

Sago requires thorough washing in cold water, to take away its earthy taste; after doing so—(a table-spoonful will be a suitable quantity)—put it in a pint of milk, and boil it slowly till it is quite soft and has thickened the milk—ten minutes, or a quarter of an hour is sufficient time—sweeten to taste, and add wine, or flavour with lemon-peel according to circumstances. Some invalids prefer tapioca to sago. It is prepared in the same quantity as the other, but does not require the previous washing, and takes only half the time for softening on the fire.

In all preparations for the sick, let the constant stirring whilst on the fire be attended to, whether directed or not. A smatch of burn renders sick-cookery perfectly abominable.

Ground Rice Milk.—A table-spoonful of ground rice, a pint and a-half of milk, and half an ounce of candied lemon-peel. Mix the rice very smoothly with the milk, then add the lemon-peel cut into very small pieces; boil for half an hour; and strain as soon as off the fire.

This is an excellent nutritious beverage for the sick when strict abstinence is not required, and for early convalescence.

Simple Bread Panada.—Put a moderate quantity of grated or soft stale bread into enough boiling water to form a moderately thick pulp; cover it up, and leave it to soak for an hour—then beat it up with two or three table-spoonfuls of milk, and fine sugar to sweeten—boil the whole for ten minutes. This preparation is occasionally acceptable to the invalid, when milk dietary alone is rejected.

Carrageen Moss.—One ounce of it, boiled in a pint and a-half of water, is sufficient to form a semi-transparent, moderately consistent, nearly tasteless jelly, which, when sweetened and acidulated, or when mixed with milk, forms an excellent diet for invalids who require to have the strength supported. The gelatine, now so commonly used, is a very palatable preparation, combined with either water or milk, and may be taken dissolved in tea, coffee, or broth, without impairing the flavour of one or other.

Jelly from Gelatine.—To rather more than an ounce of gelatine add half-a-pint of cold water to soften it, then pour over a pint of boiling water, and stir till the gelatine is dissolved; pare very thinly the rind of one lemon, and add, with the juice of three or four—if acids are permitted—one pound of loaf sugar, the whites and shells of three or four eggs, thoroughly well whisked together, and stirred into the whole: let it come to the boil upon the fire without more stirring,—*if wine is ordered with it, it should be added after coming off the fire;* pour it through a thick flannel jelly bag,—what runs through at first will not be clear, and should be returned to the bag again; let it stand till cold, and you will have a clear, sparkling jelly, which few invalids will refuse.

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[*] For additional information on cooking for the sick—See Appendix.

Gelatine with Milk.—An ounce of gelatine is to be soaked in half-a-pint of cold milk; when softened, a pint of boiling milk stirred well with it, till it is quite dissolved, it may be sweetened to taste, and put upon the fire to boil up altogether. It may be flavoured with lemon-peel, or cinnamon, or brandy, as is most liked, or most suitable. It will be quite solid when cold.

White Wine Whey.—Boil a pint of milk; add to it one or two glasses of sherry wine, and sugar enough to sweeten; let it boil till the curd has separated, then strain through muslin. If the wine does not possess sufficient acid to turn the milk, a little rennet, or a tea-spoonful of lemon-juice, or three or four grains of tartaric acid may be added.

Barley-Water.—See *Barley.*

Lemonade.—The juice of two lemons, the rind of one, added to a quart of boiling water, sweetened moderately, and kept in a covered jar or jug, is a useful drink for those suffering from cold or slight fever.

Toast-Water.—This simple beverage is seldom well prepared. Let the water with which it is made have been boiled and become cold. Toast thoroughly of a fine deep brown, but not black, half a slice of a stale quartern loaf; put it into a jug, and pour a quart of the water over it; let it stand two hours, and decant the water from the bread. A small piece of either orange or lemon-peel added with the bread is an improvement to toast-water.

Linseed-Tea.—One ounce of linseed, *not bruised*, two drachms of liquorice-root, bruised; pour over one pint of boiling water; place the jug—covered jugs with perforated spouts should always be used for drinks for sick people—near the fire for three or four hours, then strain off. When linseed-tea is ordered to be continued, it should be made fresh every day.

"Milk and Soda-Water.—Heat, nearly to boiling, a tea-cupful of milk; dissolve in it a tea-spoonful of fine sugar, put it into a large tumbler, and pour over it two-thirds of a bottle of soda-water. This is an excellent mode of taking milk when the stomach is charged with acid, and consequently feels oppressed by milk alone."

"Rice and Gravy.—Let the rich gravy from a leg of roasted mutton, or sirloin of beef, stand till the fat forms a cake on the surface, remove it, and heat the gravy with as much well-boiled rice as will make it thick. A tea-cupful of this is very strengthening in the early convalescence of delicate children."—*Dr. A. T. Thomson.*

COPAIBA, or Copaiva, or Balsam of Copaiva,—is a fluid resin obtained from trees native to Brazil. It is principally used in treatment of chest and venereal diseases. See *Balsam.*

COPPER,—the well-known metal, is used in medicine, principally in the form of its sulphate, better known by the name of "blue vitriol," which occurs in crystals of a beautiful blue colour. It can never be employed as a domestic medicine internally, and scarcely, if at all, as an external application, with much benefit; in the latter form, indeed, mischief is often done, by the popular practice of sprinkling "powdered blue stone" upon sores and ulcers; its injudicious and copious application giving much unnecessary pain, producing sloughing or mortification of the surface to which it is used, and thus retarding, instead of hastening a cure.

All the salts of copper are poisonous, but those which are most generally known and used as poisons are, blue vitriol and verdigris; another combination, the arsenite of copper—a compound of arsenic and copper—also known as Scheele's green, and deadly poison, has already been noticed under the head of arsenic. In addition to the above, poisoning by copper frequently occurs in consequence of the use of copper vessels in cooking, &c.

Blue vitriol is sometimes taken to procure abortion; its strong metallic taste, however, would prevent its being administered without the knowledge of the person taking it. It has been taken for the purpose of suicide, and the author has witnessed one case of the kind which proved fatal in ten hours, to a woman above seventy years of age, who swallowed a large dose in order to commit self-destruction. The poison produces, in the first instance, violent vomiting, and in this way life may be saved by the emetic action of the salt itself; purging succeeds, followed by extreme depression of the vital powers, cramps in the limbs and severe pain in the bowels; occasionally jaundice has occurred. The matters ejected are tinged with the blue colour of the poison. In a case of poisoning by a salt of copper, the object must, of course, be to get the stomach freed from it as quickly as possible. Its own emetic action should be assisted by warm drinks, warm water, or milk, or mucilaginous drinks of some kind, such as linseed-tea, or barley-water; sugar has been found useful in these cases as an antidote, and should be added in good quantity to the fluids which are administered. After the stomach has been well cleared by the vomiting, raw eggs should be given largely, and if sickness does not recur, which it probably will, it should be re-induced by putting a feather down the throat, or by the administration of a scruple of white vitriol in a little water. Of course medical assistance should be obtained, but the above measures may advantageously be had recourse to in the interval. When poisoning by copper occurs in consequence of its presence in food which has been prepared improperly, or in badly cleaned copper vessels, the amount of the poison may not be sufficient to occasion death, but it produces severe symptoms similar to those above detailed. Copper vessels, unless protected by tinning, and even then, unless the protection is in a perfect state, cannot be considered desirable cooking utensils, and when they are used, the strictest cleanliness is requisite for safety; even if water is allowed to stand in a copper pan for any length of time, a poisonous salt is formed, but if the water contains an acid of any kind, such as vinegar, if it holds common salt in solution, or if there be oily or fatty matter present, poisonous compounds are quickly formed, consequently, food which contains any of these ingredients should never be prepared in copper vessels; the same objection, of course, holds good as regards preserving fruits, which all contain more or less acid, and are therefore liable to act upon copper. There is, however, less danger as long as the active operations of cooking are going on, than there is from allowing the articles above enumerated to stand for any length of time in a copper utensil, freely exposed to the air. German silver, which contains a proportion, more or less considerable, of copper, is in some degree open to similar objections, and those who have used this material for any purposes, must have noticed the green stains which form upon its surface, and which are owing to decomposition of the copper it contains. Many of the cheaper green pickles contain copper, which is added to them to make the colour appear finer; the adulteration may be detected by introducing a perfectly clean plate of iron—a table knife—into the suspected article; if copper is present, it will be deposited upon the surface of the former metal, in the form of a fine metallic film or coating. It has been the practice, on the continent, to add a small proportion of sulphate of copper to dough in the making of bread; the practice is not known to be followed in England. Copper has been detected in mussels which have caused symptoms of poisoning, but it is not considered to be the invariable cause of the injurious results which occasionally follow the use of this shell fish as food. It should be remembered that the majority of the green colouring matters and pigments, at present in general use, are compounds of copper, and, therefore, care should be observed in permitting children to have access to them. A child has been poisoned by a cake of green paint from a toy colour-box. Copper coins are sometimes swallowed by children, and may pass away by stool without any apparent bad consequences; but this is not always the case, and severe epileptic fits have ensued in consequence of the accident. In the event of a child being known to have swallowed a piece of copper, salt, acids, and fatty matters should be excluded from its food, which ought to consist of thick milky preparations, such as hasty pudding and the like, well sweetened with sugar; gentle doses of aperients being administered. The thickened food should be given as soon as possible after the accident.

Refer to—*Arsenite of Copper.*[*]

CORDIALS—are stimulants generally of an alcoholic nature, the name is derived from the old idea that they "strengthened the heart." They certainly stimulate the circulation, and are useful in cases of depression from any cause, where such an effect is required. Brandy is, perhaps, as good and as generally attainable a cordial as any; the compound tincture of cardamoms, and the aromatic spirit of ammonia, constitute two of the best medicinal cordials.

Refer to—*Excitants.*

CORIANDER SEEDS—are produced by a plant, a native of southern Europe; it now grows wild in Britain. They are a pleasant and powerful carminative, the property depending upon the volatile oil which they contain. In medicine, coriander is principally used to correct the griping properties of senna.[†]

CORN.—A corn is a thickened state of the epidermis, or outer or scarf skin, caused by irritation, such as pressure or friction, acting upon the true or sensitive skin, which causes an increased growth of the flattened cells of which the epidermis is composed. The corn, produced in the first place by external pressure or friction, soon becomes, in itself, an additional source of irritation, and, by its hardness, increases proportionally the inflamed and sensitive condition of the true skin underneath. If the causes are removed, the disease gets well, as any who has suffered from corns can testify, after having been confined by illness for any time. Tight shoes are undoubtedly the most general originators of corns, but badly-made, ill-fitting ones, also give rise to the affection, not by pressure but by friction. Soft corns generally form between the toes, and are very troublesome and painful: they are kept soft by the continued perspiration of the part.

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[*] COPPER.—The use of copper chimneys to gas burners has been found injurious in work rooms, and symptoms of copper poisoning have been produced in those exposed to the influence.

[†] CORIANDER.—Coriander seed roasted and ground like coffee and infused with cream and sugar is employed in South America as a soporific.

The most efficient cure for corns is, of course, to get quit of the cause—the offending boot or shoe—but as some persons are so liable to the affection, or have their feet so formed, that if they wear boots or shoes at all they must suffer from corns; the best palliative is keeping the hardened mass well pared down in the centre. Vinegar, or strong acetic acid, applied to a corn every evening will sometimes effect a cure, a little olive-oil being smeared over every morning. Various corn-plasters are used; the most effective and rational are those which are made thick, and have a hole cut in the centre for the corn, which is thus preserved from pressure. Soft corns should be cut with scissors: a piece of linen should be worn between the toes, and the strictest cleanliness observed. A peculiar kind of corn occasionally forms under the corner of the nail of the great toe, and causes much pain and irritation, if discovered by slightly elevating the nail, the thickened mass may be turned out.

Refer to—*Skin*.

CORN.—See Grains.

CORNEA.—The transparent, glass-like, portion of the eye. See *Eye*.

CORROSION.—The term, when applied to the living body, means the gradual destruction of any of its tissues by chemical action.

CORROSIVE SUBLIMATE.—See Mercury.

COSMETICS are external applications used to improve the appearance of the skin, as regards whiteness, &c. Their employment is always to be condemned, moreover they frequently contain deleterious matters, such as corrosive sublimate of mercury, salts of lead, &c., &c. Indirectly they are injurious, by leading the mind from the only true cosmetics, obedience to the laws for the maintenance of physical health, which the Almighty has linked with our existence—Cleanliness, temperance, abundant fresh air and exercise, and early hours, and the cheerfulness which results from th healthful occupation of the mind in legitimate pursuits, are cosmetics which no ar can imitate or supply.

COSTIVENESS, or Constipation, is undue retention of the fæcal contents of th bowels, and their evacuation in a harde and drier condition than natural. The stat is one, in great degree dependent upon habi and constitution, for that which would b considered constipation in one person, woul not be so in another, and *vice versâ*. As general rule, however, the bowels ought t relieve themselves *thoroughly*, once in th twenty-four hours, when such is not th case, the condition may be said to be one o costiveness.

With some individuals, a single evacuation of the bowels, once every three or fou days, and even less often, seems to be sufficient, and perfectly compatible with thei enjoyment of perfect health, and when suc is the case, it is of course superfluous t endeavour to correct it, and it is better t let well alone. If, however, in conjunctio with this condition of the bowels, the perso suffers from headache, from languor, fro distention of the abdomen, if the breath i disagreeable, and the tongue furred, th state is *not* compatible with health, an should be corrected.

The causes of costiveness are very numerous, the nature of the food as might be expected exerts considerable influence; brea badly made, and especially if alum be mixe with it, cheese, milk with some persons, farinaceous articles such as arrow-root or groun rice, and food of too concentrated a character, all tend to constipate. Deficient exercise particularly if combined with much exertio of mind; any drain upon the system as i suckling, abundant perspirations, loss o nervous power, and old age, have the sam effects. Pregnancy, and tumours in th abdomen, constipate by mechanical obstruction, and in the same way, contraction o any portion of the alimentary canal. Th colon or large bowel is very frequently th seat of the constipation, it loses tone, allow itself to be distended, sometimes to a enormous extent, or contracts to a ver narrow calibre in some portion of its course Lastly, a very common inducing cause o costiveness, particularly in females, is inattention to the intimation of nature t relieve the bowels.

As, except in the case of a few persons o constitutional peculiarity, confined bowel cannot be compatible with health, comfort or activity of either mind or body, the stat must be rectified, and that in a prope manner, not as it is usually attempted

Perhaps there is no ailment to which the human body is subject, which is more frequently mis-managed than constipation. Every effort should be made to correct the disorder without the aid of medicine. In the food, all those articles which have been enumerated, or which are known to constipate, must be avoided; the bread used should be made of coerse flour; if vegetables and fruits agree in other respects they may be freely consumed, and cocoa substituted for tea or coffee: food is not to be taken in a state of too great concentration, but so that by the bulk of its refuse it may afford substance to stimulate the action of the bowels. In addition, there are various articles of diet which exert an aperient effect, and which may be used or not according to the taste of the person: such as Scotch oatmeal in the form of porridge, honey, prunes, &c. Exercise, whether on foot or horseback, is another valuable aid in the removal of the costive state; it not only quickens all the functions, but it assists by the mechanical motion it communicates to the intestines; a similar effect may, in some cases, be produced by friction or kneading the abdomen with the hand; the practice is scarcely so much resorted to as it might be. Another very important point is regularity in the time of evacuating the bowels; not waiting for the urgent sensation, but retiring for the purpose at one set period of the day, when time can be given. Persons who are liable to costiveness should give themselves at least a quarter of an hour, or even longer for the daily evacuation of the bowels. Lastly, as constipation is so frequent an attendant upon the sedentary life of the student, and upon the anxious-minded man of business, a holiday both from books or desk, and change of air and scene, is both a good and pleasant remedy.

When neither diet nor regimen will effect the cure, other means must be had recourse to. If there is simple costiveness, without disorder of the digestive functions, the best remedy will be the regular use of some simple clyster; if on the other hand, furred tongue, with acidity of stomach, flatulence, pain between the shoulders, headache, &c., betoken deranged digestion, medicine will be required, at all events in the first instance; the liver is probably at fault, and five or six grains of blue pill, or of compound colocynth and calomel pill, followed in the morning by the black draught, or by castor-oil, will be requisite to commence the treatment.

When the stomach, liver, and upper bowels have been well cleared by the above medicines, it is requisite to *keep* the bowels open, otherwise a few days will see all the symptoms returned, and, in fact, such is too often the case: persons are content with taking a dose of strong opening medicine every few days, or once a week, as the case may be, and rest content with thus, as it is called, having a good clearing out—albeit they are under the necessity of increasing the strength of the doses. The practice is one incompatible with sound health, and is most injurious to the stomach and bowels themselves; many cases of obstruction, and even inflammation of the bowels are produced by it. The principle to be proceeded upon in the treatment of costiveness is, that it is more easy to keep the bowels in action than to excite them to it when they have become thoroughly torpid, and therefore the individual should not rest content without the daily evacuation. As has been said above, if simple constipation, depending upon inaction of the lower bowel, exists, the use of the clyster will in all probability be sufficient; but medicine may be required, perhaps daily, for some time, or it may be used alternately with the clyster. Some medicines are more than others adapted to the treatment of habitual costiveness, and of these castor-oil, aloes, alone or in its combinations, senna, and ipecacuhana are the principal, their great advantage is not losing their effect by continued use. When castor-oil can be taken regularly, in most cases it answers extremely well, and if taken regularly, the dose requires rather diminution than increase; it is a medicine, moreover, which never seems to injure the tone or the mucous coat of the bowels. In the constipation of pregnancy, castor-oil is so well known as the best and safest aperient that it scarcely requires mention. Aloes is peculiarly well adapted to relieve certain forms of costiveness, particularly that of the sedentary, and may be taken in the form of pill, in combination with soap, in the compound rhubarb pill or compound colocynth pill; any of these are most excellent combinations. If there is debility of stomach, the addition of a quarter or half a grain of quinine to each pill increases the efficiency of the medicine and gives tone to the stomach. The quinine must not be continued for more than a fortnight at a time The dose of aloes when regularly taken does not require to be augmented. When quicker action is required, the compound decoction of aloes may be taken with advantage instead of pills.* The principal contra-indication to the use of aloes is the occurrence of piles, which, if inflamed, or if the dose be too strong, are apt to be aggravated by the medicine, in this case, castor-oil, or infusion of senna, or the clyster, should be substituted, for a time at least. In some cases, on the other hand, when the piles are not inflamed, aloes taken regularly in small doses, seems to exert a beneficial and curative action upon them; probably in consequence of keeping the intestinal veins from becoming over-loaded with blood. Senna, either in infusion or electuary, is a medicine well adapted for the relief of costiveness; it is perfectly safe, and does not seem soon to lose its effect. Ipecacuanha, not alone, but in quarter or half-grain doses, especially when added to the aloetic pills, exerts a most beneficial effect in cases of habitually confined bowels. A weak solution of Epsom salts, a drachm to the half-pint of water, with or without the addition of five or ten drops of dilute sulphuric acid, when taken on first rising in the morning, will prove effectual with some, and forms a change from the use of the other aperients.* Again it is repeated; keep the bowels free, by food, by exercise, by habit, if possible, by clyster or medicines, if necessary; but *do nòt let them become costive.*†

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* COSTIVENESS.—In the treatment of costive the following pill is often especially useful, but it should not be persevered in for more than ten days at a time, and its use not renewed until after an interval of ten days. During this interval the ordinary Colocynth, or compound rhubarb pill may be taken. Take of extract of nux vomica two grains, compound Colocynth pill forty grains; mix thoroughly, and divide into twelve pills. Take one or two at bedtime.

In some individuals, in whom the walls of the abdomen are very flaccid, and do not afford sufficient tonic support to the contained bowels, costiveness frequently exists, and is much remedied by the use of an elastic or other belt, worn to support the entire belly.

Refer to—*Alimentary Canal—Aloes—Clyster—Digestion—Laxatives, &c.*

COTTON is a soft downy fibre obtained from the seed capsules of the cotton-plant, a species of gossypium. In its manufactured state, as calico, it is useful for many purposes, such as bandages &c., in medical practice. The use of cotton cloth in the treatment of sores is generally considered to be more likely to irritate than linen, but the difference, if there is much, is greatly exaggerated. The cause has been said to be in the different form of the constituent fibre; that of the cotton, as seen under the microscope, being flat; that of the lint round. Much of the manufactured lint consists of cotton alone or mixed with flax. It has been thought that the flat sharp (?) edges of the cotton fibre were the irritating agents. The use of the sheet cotton in the form as used for wadding dresses, is a most invaluable application in burns. It is also sometimes used to dress blisters.

Refer to—*Lint—Burns, &c.*

COTYLEDON UMBILICUS, or WALL PENNYWORT, is a native of Britain, and is found growing on old walls, chiefly in th south of England. The whole plant is succulent, and its leaves, which are round spring directly from the soil, or nearly so from their centre there is sent up a roun stem about nine inches high, which bear a number of yellowish-green, droopin flowers. The plant is remarkable from its juice having lately come prominently int notice as a remedy for epilepsy. It wa introduced by Dr. Salter, of Poole, and the author can from his own professiona experience testify to its marked good effect in this most intractable and distressing malady. Of course, in those neighbourhoods in which the plant grows, the fresh expressed juice may be used; but mos efficient extracts are made from it by various of the London chemists. The dose of the fresh juice is one ounce twice-a-day

COUCHING is an operation performed upon the eye, by which the lens, when i has become opaque from disease, is shifted or depressed to another part of the interior of the eye-ball, and thus removed from the axis of vision, which it obstructs.

Refer to—*Eye.*

COUGH—consists in the violent expulsion of air from the lungs through the air-passages. In most cases it must be regarded rather as a symptom of disease than as a disease itself. Cough may arise from a great variety of causes. From direct irritation of the air-tubes themselves by the inhalation of cold and damp air, or of irritating vapours, by the mechanical irritation of foreign substance accidentally introduced into them, by the pressure of tumours, or by irritation of the throat and fauces, particularly when there is relaxation of the uvula, and also in consequence of disease, inflammatory or otherwise, of the lungs themselves. Further, cough may be sympathetic with disorder in the stomach, or liver, or with irritation in the bowels, occasioned by worms or other irritant agents, or it may be the result of nervous derangement, such as hysteria, or be spasmodic like hooping-cough. So numerous are the ailments and diseases of which cough is a symptom, that it frequently requires considerable discrimination to determine the real cause of the irritation. Many of the acting causes are undoubtedly trivial, but many are deeply seated and fatal diseases, and therefore, whenever an individual becomes the subject of cough, which cannot be readily accounted for by cold or some other direct cause, a medical examination ought to be submitted to, and even if the cough has been in the first instance the result of cold, should it con-

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[*] COSTIVENESS.—The following electuary was recommended by the late Dr. Graves, and would, probably, suit persons of weak habit. Take of senna confection two ounces; cream of tartar half an ounce; carbonate of iron, quarter of an ounce; syrup of ginger sufficient to make an electuary. Dose one small teaspoonful at mid day and bedtime. In some cases quarter of an ounce of sulphur may be added. For additional remarks—See Appendix.

[†] The new drug "Podophylline" is a valuable addition to our remedies in the treatment of costiveness.—See Appendix—Article "Podophylline."

tinue "hanging about" a person, without obvious reason, medical advice ought to be taken; mischief may be brewing, and be the cause of the irritation, or the cough excited by some trivial and easily remedied cause, may itself be causing disease in the lungs of a predisposed person.

Cough is spoken of both medically and popularly as dry and moist. A dry cough may be the result of direct temporary irritation of the air-passages, but more generally it is symptomatic either of incipient disease connected with the chest, or of sympathetic nervous irritation, probably connected with the abdominal viscera. Moist cough is generally connected with direct affections of the chest, such as common catarrh, and with inflammatory affections, or with asthma or consumption.

It has already been said, that a cough should never be allowed to continue for any length of time without the cause being ascertained by medical examination; till this is done, it can scarcely be expected that the proper remedy can be applied. In the first instance, however, simple remedies may be tried. If the cough be clearly traceable to cold or catarrh, it may be treated according to the directions given under these heads; if it be very dry, demulcent medicines, such as the mucilage and tolu-mixture, or barley-water, or linseed-tea, may be taken freely, with from five to ten drops of ipecacuanha wine two or three times a-day, to which may be added fifteen or twenty drops of tincture of henbane to allay irritation. Opium and its preparations are not generally desirable in dry cough—unless, indeed, it be spasmodic—as the drug itself exerts a drying effect upon the mucous membrane of the lungs. The inhalation of the steam from boiling water is sometimes highly beneficial. In dry, and also in moist, cough, counter-irritation, by blisters, on the anterior part of the chest, or between the shoulders, is often of much service. The surface of the chest should be well protected by flannel next the skin, by a dressed hare-skin, or by a warm plaster, either in front or behind. In moist coughs, the amount of fluids, and of demulcents, must be somewhat more restricted than in the above. The preparations of opium may be given in small quantity, either alone or in cough mixtures, but none answers better than paregoric, taken in one or two teaspoonful doses in water; this allays the irritation and teazing frequency of the cough, and to each dose, if expectoration is difficult, five or ten drops of ipecacuanha wine, and the same of tincture of squill may be added. The author has found the following pill most extensively useful in coughs depending upon irritation in the bronchi or air-passages:—take of powdered opium five grains, of powdered squill sixteen grains, of powdered ipecacuhana twelve grains, of powdered camphor eighteen grains, of powdered gum ammoniac twenty-four grains, of powdered rhubarb twelve grains; make into a mass with syrup, and divide into thirty pills: of these, one or two may be taken for a dose.

The foregoing remarks apply only to chronic or continued cough; of course the treatment of the affection as it arises in connection with other disease, either acute, such as inflammation of the lungs, or chronic, falls under the general management of these disorders. When feverish symptoms occur along with cough, all stimulation, either in diet, or by stimulant expectorants, is to be avoided; indeed, as a general rule, when cough exists, the diet should be as little stimulating as circumstances will permit, and the usual allowance of animal food curtailed; but in old people, and those who have lived freely, the lowering system must not be carried too far; it may be requisite even, at times, to stimulate, and to support strength by strong meat soups.

Again it is repeated, a cough ought not to be allowed to continue; if not relieved by some of the simple remedies mentioned above, medical advice should be sought, *particularly in the case of the aged*, and if there is much secretion of phlegm or mucus, the least continued impediment to the expectoration of which, in an old person, may rapidly induce dangerous or fatal embarrassment of the lungs, often most unexpectedly.

The possibility of a relaxed or elongated uvula being the cause of cough must not be forgotten, an examination of the throat will detect it, and the state may be relieved by the use of some astringent gargle, by a small fragment of catechu allowed to dissolve in the mouth, or by touching the uvula once or twice a-day with a camel's-hair brush dipped in "tincture of steel."

Refer to—*Catarrh—Cold—Counter-irritation—Expectorants—Lungs, &c.*

COUNTER-IRRITATION—is irritation or excited action in one portion of the body, which counteracts or withdraws analogous action going on in another portion. It may be naturally or artificially established, and it may be called into action within the body, as well as without; but the term is now generally applied solely to counter-irritant action artificially excited upon the skin. There are many various modes of exciting counter-irritation: some may be, and are used, popularly, with perfect safety, others are only admissible in medical hands.

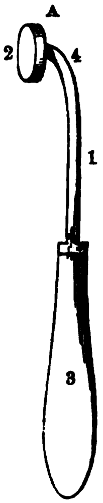
Counter-irritants may simply produce reddening of the skin, or they may blister, or they may cause discharge of purulent matter, or even mortification of the surface. Heat, according to the temperature at which it is used, may give rise to any or all of these effects: mustard will redden smartly, and may blister; ammonia will do the same, according to strength; camphor in solution, either in spirit or oil, will redden.

Of the blistering counter-irritants the Spanish fly is the best, and almost universally employed. Boiling water, or its steam, or metal heated in boiling water, have all been used for the purpose, and might be, on emergency. Counter-irritation by tartar emetic, or tartarized antimony, takes the form of pustules or pimples. The salt is applied either in the form of ointment, or as a saturated solution, used as hot as can be borne, and rubbed upon the skin by means of a piece of flannel. The pustules formed by the latter mode are said to heal speedily, and to leave no scar, which sometimes happens after the ointment. When a common blister is irritated, "kept open," secretion of purulent matter takes place; but the system is a bad one, and is productive of much unnecessary pain and irritation.

Issues and setons cause discharge of matter. Counter-irritation, by means of galvanic agency, has recently attracted notice.

Iron heated to a red or white heat, moxas, and other applications which *destroy* the texture to which they are applied, fall under the head of cauterants, and can never be used as domestic remedies. There is, however, one application of the hot iron, introduced by Dr. Corrigan, of Dublin, which might safely be used by the non-professional, and as the instrument can be made by any blacksmith, might prove a valuable resource in remote districts, for the relief of nervous and rheumatic pains, such as lumbago, sciatica, &c., &c., in which it is often of essential service.

The instrument—fig A—consists of an iron portion—1—about four inches and a-half long, which ends in a disk—2—half an inch in diameter, and quarter of an inch thick, and a wooden handle—3. When it is used, it is grasped so that the point of the fore-finger may rest upon the bend at 4. The disk is then to be introduced into the flame of a spirit lamp, or of a piece of burning paper, and held till the metal—at 4—becomes uncomfortably hot; the handle is then to be grasped, and the disk applied lightly, and momentarily, and at short intervals, to the skin over the affected part. Each touch of the disk produces a shining mark on the skin, and very shortly the whole surface becomes reddened and slightly inflamed.



As regards the use of counter-irritants generally, it is often serviceable to excite the skin by friction, or heat, before using them. *When fever is present and inflammation going on*, non-professional persons will do quite as much, if not more good, and be much less likely to do harm, by using the mild counter-irritation of moist heat, than by applying blisters, mustard, &c., particularly close upon the seat of the disease. If a blister is put on in these cases, it should be a *large one*. For further information respecting the counter-irritants individually, the reader is referred to the various articles —*Antimony*—*Blister*—*Mustard*, *&c.* *

COUNTENANCE.—The expression and aspect of the human face is much and peculiarly affected by the various diseases which affect the body, and the first view of a countenance often conveys to a physician who has studied the subject, immediate, valuable, and certain prescience as to the nature of the disease for which his patient is about to ask advice. The indications are partly due to the changes of complexion which are associated with different forms of disease; but expression is equally significant. The physiognomical evidences have been classed by a writer, Mr. Corfe, who enjoying abundant scope for such observations, has made them an object of special attention.

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* Counter-Irritation.—An excellent counter-irritant liniment is made by mixing one drachm of croton oil with seven drachms of soap liniment. A teaspoonful rubbed on the skin quickly brings out a crop of eruption. The person who rubs it on should wash the hands at once.

The following is a summary of Mr. Corfe's arrangement:—

Countenance in—

A.—BRAIN AFFECTIONS.
- 1. Lethargic, in disease causing insensibility.
  - Examp.: Apoplexy.
- 2. Livid, in disease causing deficient change in the blood.
  - Examp.: Suffocation and Coma.
- 3. Distressed, in disease causing mental disturbance.
  - Examp.: Paralysis and Fever.

B.—CHEST AFFECTIONS.
- 1. Dusky, in disease interfering with blood changes.
  - Examp.: Bronchitis.
- 2. Anxious, in disease, impeding respiration.
  - Examp.: Croup.

C.—ABDOMINAL AFFECTIONS.
- 1. Pinched, in painful seizures.
  - Examp.: Colic and Cholera.

D.—NUTRITION AFFECTED.—EMACIATION GENERAL.
- 1. Wan, in diseases of debility.
  - Examp.: Consumption and Cancer.
- 2. Hue peculiar, in diseases affecting the blood.
  - Examp.: Heart disease and Jaundice.

E.—ENLARGEMENT OF ORGANS, GLANDS, &c.
- 1. Disturbed, in diseases causing continued uneasiness.
  - Examp.: Sore-throat, Rheumatism, &c.

F.—VASCULAR DISTURBANCE.
- 1. Flushed, in febrile disease.
  - Examp.: Inflammatory fever.
- 2. Pale and languid.
  - Examp.: Hæmorrhage, &c.

Refer to—*Complexion, &c.*

COUP DE SOLEIL, or SUN-STROKE. See *Heat, effects of.*

COW-POX is the disease affecting the cow, which, transferred to the human subject, confers in the majority of cases immunity from attacks of small-pox, and in those in which it does not give complete protection, renders the attack of that usually virulent disease comparatively mild.*

Cow-pox shews itself upon the teats of the cow in the form of blueish or livid-looking vesicles, surrounded by a ring of inflammation, whilst at the same time, the animals are feverish, and the milk diminished. At first the vesicles contain clear fluid, but ultimately become pustular, or filled with matter. The cow is liable to other forms of pustular disease affecting the teats, but they do not present the same characters, nor follow the same course as the genuine cow-pox: which is, moreover, a constitutional disease, sometimes extremely severe, and even fatal to the animals.

The name of Dr. Jenner, who discovered this inestimable boon, and introduced the practice of vaccination—as the inoculation of cow-pox matter is termed—must be known to all. His attention was first directed to the subject from the known circumstance, that when the cow-pox had prevailed among the cows of a particular district or farm, many of those connected with the management of the animals, likewise became affected with the disease, and therefrom a certain number were protected against small-pox. The value of this circumstance, seemed at first to be materially impaired by the fact, that the protection was neither universal nor certain, until the investigations of Dr. Jenner made it clear, that the protection or non-protection depended upon the stage which the disease had attained in the animal at the time it was contracted by the human attendant; that is to say, if the vaccine disease advanced into the stage of maturation, or that in which the contents of the vesicle, which forms its outward manifestation, had become converted from a limpid-looking fluid, into matter, although sores were produced upon the hands of the milkers, that certain protection was not afforded which ensued when the sores were produced by the fluid from the vesicle in an earlier stage.

Following up his investigations, Dr Jenner clearly *demonstrated, that when the human subject was properly inoculated with virus taken from the cow-pox vesicle, at the proper stage of its progress, and when in consequence of that inoculation the disease was regularly produced, and went through its proper stages, both locally and constitutionally, the individual thus affected was thenceforth all but certainly protected from the contagion of small-pox.* These circumstances call for particular attention at the present time, when the value of vaccination and its protective power is becoming much disputed. It is unquestionable, that within the last few years, small-pox has prevailed much more extensively, and been more fatal, than was the case some time previously, also, that many persons who had been vaccinated have taken the disease, and that a certain proportion of that number have died from it. As regards the complete protection of *every* individual who is vaccinated, against the contagion of small-pox, it could never be expected—for the simple reason, that one attack of small-pox, is not in every case a security that the disease may not be contracted a second time; for, although, in the eruptive fevers generally, as well as in small-pox, the general rule is, one attack in a lifetime, it by no means invariably holds good, and it is unreasonable to look for more from cow-pox than we find in the analogous cases already alluded to. Admitting, then, that certain exceptional instances may fairly be expected in which the most perfectly developed cow-pox will not protect against small-pox even in its most fatal form, it becomes a question how far its protection really extends, and whether, from some cause or other, its influence has not become diminished since the early days of its introduction. Many are inclined to this opinion, on account of the recent epidemics of small-pox which have prevailed in various districts; but it will require much stronger evidence of the fact than has ever yet been produced, to justify, as some would have it, the abandonment of vaccination, and the recurrence to inoculation for small-pox. One thing is certain, that Dr. Jenner, strongly alive to the circumstance that milkers inoculated with the genuine cow-pox were not protected by it if the disease had passed a certain stage, both practised, and insisted upon the practice, as a condition necessary for success, that the same law should be had regard to in the transference of the matter from one human subject to another.* It must be asked, has this precaution been observed in the cases of those who have proved to be insufficiently protected. It may, or may not, have been the case; but there is some reason to expect, that among the thousands and millions who have undergone vaccination, a certain proportion have thus been lulled by the semblance of protection which was no protection at all. Again, it is an ascertained fact, that the presence of other disorders materially interferes with the regular progress and perfect development of cow-pox; and thus there is introduced another element of fallacy and of failure, and, lastly, are there not those who have been vaccinated, but in whom the disease, owing to constitutional peculiarity, or insufficient performance of the vaccinating process, has either been irregularly developed or not at all, but who nevertheless rank among the vaccinated? With all these sources of failure, it cannot be matter of surprise, that a proceeding to which is confided the protection of millions against so active an enemy as small-pox, should in a certain proportion of instances fail, still less so, when it is reflected, that amid the various hands to which its performance is entrusted, some will prove careless, nay, that it is not unfrequently performed by those who are ignorant of the distinctive characters of the true cow-pox disease. This is not said in condemnation of the performance of vaccination by non-professional persons, under peculiar circumstances, for in many cases it has proved and must prove, of the most essential benefit, but still they cannot be expected to distinguish accurately an irregular development from one which is the reverse.

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* The fact that not a few severe cases of small-pox have recently occurred even after vaccination, has led many to doubt whether its protection was so certain as believed; but the rule holds good, when all precautions are taken, as stated below.

The most interesting recent fact connected with the history of vaccination, and one which throws light upon its constitutional influence, has been elicited by the experiments of Mr. Ceely of Aylesbury, which prove the identity of the two diseases, cow-pox and small-pox, and that their apparent difference depends upon their modification by the animal constitution; in other words, that by taking the matter from a patient labouring under small-pox, and therewith inoculating a cow, the genuine cow-pox was produced, and thus, that by its passage through the constitution of the cow, the former virulent disease is deprived of its virulent and fatal character, and converted into a mild and perfectly safe disorder, and equally important, *deprived of its contagious property*, otherwise than as it can be communicated from one person to another by direct introduction of its tangible virus into the blood. Connected with this fact, is the occurrence of the grease on the heels of horses, which was at one time considered identical with cow-pox, but must now be considered as the same virus, but modified by the equine constitution.

The next point is one intimately connected with the prejudices of the public, and especially of the poor—the possibility of other diseases, or a tendency to them, being introduced along with the cow-pox virus, taken from persons who either had the dreaded disease, or a tendency thereto. The idea is not without *apparent* foundation, but the state of the case is one which most parents are unwilling to admit. Any medical man who has had much to do with vaccination, and who has watched its effects, must have known cases, in which children previously apparently healthy, have, after passing through cow-pox, become liable to cutaneous eruptions, discharges from the ears or eyes, and even abscess; some of these are of course adventitious circumstances, but they occur too often, and too closely following vaccination, to be entirely so; moreover, they are precisely analogous to what is witnessed every day of the effect of eruptive febrile diseases, such as measles and scarlatina, upon children of weakly and scrofulous constitution. That the virus itself introduces other than its own specific disease is not to be believed, but that the peculiar disturbance it occasions in the constitution, stirs up as it were, the latent tendencies to disease above-named, cannot be doubted. It is proper that the public should be rightly informed upon this point, for it is one on which much misconception prevails, and it is the chief ground of prejudice and even of resistance to vaccination, especially among the poor. The medical man is constantly met with objections, on the score of the liability to the introduction of other diseases along with the cow-pox, and when a reluctant consent is yielded, it is always guarded with strict injunctions as to the selection of the matter from a "healthy child," each person considering their own offspring as unexceptionable. It certainly is not a pleasant admission for parents, either to themselves or to others, that their children have bad or scrofulous constitutions; but the fact still stands, that vaccination, as well as the other eruptive fevers, may in them give the first impetus to latent disease. A parent may decide not to subject a child to the chance, but in doing so, it is exposed to the much greater hazard of an attack of small-pox, in the first place as a disease, and in the second as an excitement of other diseases, still more powerful than vaccination.* Further, however, as a proper concession to the opinions of the public, a medical man ought to take the vaccine virus from perfectly healthy children only; and it may be said, if we find such a powerful modification of the constitutional effects of the disease by its passage through the body of the cow, there may be some influence, to us unappreciable, exerted in the passage through the varied constitutions of mankind; at all events, the simple supposition is sufficient to dictate care in the selection of those from whom the vaccination lymph is taken.

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* The every day experience of medical men testifies to the necessity of special attention being paid to this point.

The best period of life for the performance of vaccination, is infancy, between the third and fifth months, before the constitution becomes disturbed by the process of teething; it may, however, be performed at any time, from immediately after birth, should circumstances, such as exposure to the contagion of small-pox, render it advisable, and of course at any period of after life. A child ought to be free from illness or disorder at the time of vaccination; any tendency to fever, to diarrhœa, &c., &c., or any eruption, should be removed before the process is undergene.† It is always preferable to vaccinate from the fresh arm, if possible; when this cannot be done, vaccine virus or lymph is used, which has been preserved for the purpose, either dried on ivory points, or between two small squares of glass, or liquid, in small glass tubes. In these cases it ought to be as fresh as possible, otherwise it is liable to fail, but if well preserved from the air by means of oiled silk, or metallic leaf wrapping, and kept in as cool a place as possible, it will keep its efficiency far longer, and is thus sent or taken to warm climates. The hermetically sealed tubes are said to be peculiarly well adapted for the above purposes, and sugar has also been used as a medium for preserving the lymph for a lengthened period. The scabs, too, dried, and kept from the air, are said to be capable of producing the disease after keeping‡ they require to be rubbed down with a little water when used.

The part of the body on which vaccination is usually performed, is the arm, about half-way between the shoulder and elbow; a point not of very great importance in males, but to be attended to in females, who may wear low dresses, or short sleeves, and who will not thank the doctor for a scar upon a visible part. Some vaccinate upon both arms, others consider three, or even two, well developed vesicles upon one arm sufficient. In choosing the arm in a child, it should be done with reference to the arm on which the nurse or mother habitually nurses it; attention to this simple point, may save the child some uneasiness, or even from failure of the entire process, by the vesicles being rubbed or broken.

All that is requisite for the process of vaccination, is the contact of the virus with the surface of the true skin, which of course is done by piercing through the upper or scarf skin; this may be effected without pain sufficient to make an infant cry, by a series of scratches crossing one another, continued till the slightest exudation of coloured serum takes place. A small quantity of the vaccine is now to be placed upon the abraded spot, and the thing is done. If the lymph has been dried, it is advisable to rub it into the exuded serum with the point of the instrument used. The points of insertion should be placed about three quarters of an inch asunder. Of course anything which will abrade the skin in the manner described alone, and apply the virus, may be used as a vaccinating instrument; a large needle will do if nothing better is at hand, but a lancet, *not over sharp*, is perfectly convenient for the purpose, or the vaccinator of Dr. Graham

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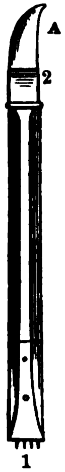
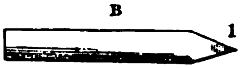
* Vaccination is now very properly compulsory, and convictions have already been obtained under the Act, for the neglect of what all sensible people must admit to be one of the best sanitary measures ever introduced.

† The legal time, (three months) is probably too limited for the above reasons.

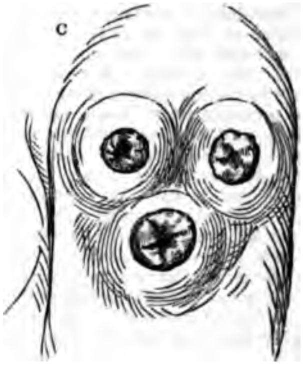
‡ This is doubtful, and ought not to be relied upon, when any other means are available.





Weir—fig. A.—which is furnished with a series of metallic points—1—at one end of the instrument, for the abrasion of the cuticle, and a small knife—2—at the other, for the collection and application of the virus. When ivory "points"—fig. B.—are used to vaccinate from, the charged extremity—1—may either be well rubbed on the scratched surface of the skin, or the virus may be scraped off and applied with the lancet, or a deeper incision* being made with the lancet, in place of the scratches, the extremity of the point is to be pressed into it for twelve or fifteen seconds. These directions are material, for vaccine virus is always sent out from the "National Vaccine Establishment" upon ivory points.

The course of the vaccine disease is generally a regular one. About the third day after the insertion of the lymph, the spots appear slightly elevated and inflamed, like small pimples; on the fifth, each has a perceptible vesicle upon it, which continues enlarging, until, about the eighth day, it assumes its perfectly developed characteristic form—fig. C—that of a circular vesicle with depression in the centre. At this period it contains a transparent "lymph," and it is surrounded by a perceptible blush, or "areola," the vesicle itself looking pearly or yellowish. By the tenth day, the lymph has become changed into matter, and the vesicle looks more opaque and darker; the areola of inflammation has much extended, the affected skin feels hot and hard, and is sometimes covered with minute blisters. After the eleventh day, the areola begins to fade, the vesicle darkens still more in colour, becomes drier and shrivelled, and finally assumes the form of a dark chocolate-brown scab, which separates somewhere about the twenty-first day, leaving the skin healed, but permanently marked with the impression of the vesicle, and with a number of little pits. Occasionally the process does not go on quite so regularly; four, five, or six days may elapse before the points of insertion inflame; and it may be the tenth or eleventh before the vesicle is fully formed. On the other hand, it may advance so quickly as to be well formed by the seventh day. These differences are chiefly due to constitution. In a weakly child the process is apt to be delayed, and *vice versâ*. The constitutional symptoms also vary, but generally are palpable about the eighth day; the child is fretful and feverish, and continues so, more or less, for three or four days. Without the evidence of constitutional disturbance, the protection cannot be calculated on as complete.



The management during the progress of the vaccine disease is very simple, the principal being the protection of the vesicles from injury, either by rubbing or by the dress. A piece of soft linen should be placed upon them on the fifth day. If the inflammation of the arm is severe, as sometimes happens, a cold poultice of bread and water should be applied. A little goulard water will allay the after-irritation, if troublesome. A dose of some simple aperient, castor-oil or senna, should be given on the tenth or eleventh day, and repeated once or twice afterwards. Care should be taken that the scabs are not forcibly detached, otherwise a sore, sometimes difficult to heal, may be the consequence. Sometimes this will happen in spite of all precaution, in children of a scrofulous habit, and a troublesome ulcer form. It may be dressed with cold cream, or simple water dressing, or may require a weak astringent lotion, such as two grains of the sulphate of zinc to the ounce of water.*

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* Care must be taken to avoid making the incision so deep as to produce much bleeding.

Occasionally, an eruption of vaccine vesicles comes out all over the body; it is not a circumstance of importance, and makes no difference in the treatment.

When matter is taken from the cow-pox vesicle for the purpose of propagating the affection, it is requisite to puncture the vesicle all round, for in consequence of its being divided into separate cells by partitions radiating from the centre—such as we see in the section of an orange—if one cell only is opened, the amount of lymph which exudes is comparatively small. The ivory points may simply be dipped in the exuded lymph and dried; or the square of glass, if glass is used, gently applied to the vesicle. The "points," when dry, should be enveloped in some material which will exclude the air, such as gold-beater's leaf, or they may be kept in a bottle. When glass is used, the two squares should be put together before the lymph is *quite* dry, and if likely to be kept long before using, they also should be wrapped up from the air; if to be used at once, paper is sufficient.

The question of re-vaccination is much mooted. If the process has been properly passed through in early life there can be no possible necessity for its repetition before puberty; but after that period, during which the constitution undergoes considerable change, it is an expedient precautionary measure which ought to be resorted to. The process of a second vaccination is very different from that of a first, being irregular in every way, sometimes causing the slightest degree of irritation, at other times giving rise to rapid, almost erysipelatous inflammation of the arm. When it takes effect, it usually occasions slight feverish symptoms, loss of appetite, and headache for a day or two. A dose or two of aperient medicine should be taken when these symptoms are passing away. The virus of a second vaccination is quite inefficient, and should never be taken.

It is not generally known that vaccine matter is promptly supplied by the National Vaccine Institution, not only to medical men but to clergymen and others, provided circumstances justify the application, which should be made in writing, addressed to Dr. Hue, Registrar, National Vaccine Establishment, Russell-place, Fitzroy-square; inclosed in cover, directed to the Right Hon. the Secretary of State, Home Department, Whitehall, London. National Vaccine Establishment.

Refer to—*Skin*—*Small-pox.*

CRAB.—The well known shell-fish, is an article of diet unsuited for those of weak digestion. In some constitutions it causes griping when eaten, and in others a cutaneous eruption.

CRAB'S-EYES—formerly used in medicine as antacid remedies, particularly in cases of gravel, are concretions which form in the stomach of the craw-fish.

CRAMP is a spasmodic, involuntary, and painful contraction of the muscular fibres. The term is generally applied to the affection of the voluntary muscles, in contradistinction to spasm, applied to that of the involuntary. Any muscles may become affected with cramp, but those of the legs and arms, of the former especially, are most liable to be so, doubtless from the greater liability of the nerves supplying the lower extremities, to irritation and pressure, two great exciting causes of the disorder. The cramp may be confined to one or two muscles, such as those of the calves of the legs, or may be more general, as happens in cholera. The affected fibres are drawn in hard knotty contractions, and maintain this condition for a longer or shorter time. The most frequent causes of cramp, are the presence of indigestible food in the stomach, or of acid in the bowels, or the pressure exerted on the nerves by overloaded bowels. A similar acting cause in pregnancy and labour, the weight and pressure of the child, also occasions painful and troublesome cramp. The disorder is often associated with the presence of worms. When cramp affects the arms and fingers, it may be connected with disease of the heart and great blood-vessels of the chest. The power of the application of sudden and prolonged cold in producing cramp, is often sadly exemplified in the case of bathers. The best immediate remedy for cramp is friction with the hand, or better still, with the soap and opium liniment. When the legs are affected, it is always expedient to take medicine, rhubarb and magnesia, with a tea-spoonful of sal volatile, or fifteen grains of carbonate of soda, with sal volatile, or a little ginger; and afterwards to clear out the bowels with some active aperient, such as castor-oil, especially if there is any existing constipation, or a possibility of their being loaded. Any other disorder of the digestive organs ought of course to be attended to. Some persons find relief to the immediate attack of cramp, by tying a band of some kind tightly round the limb, between the affected part and the body, whilst others are in the habit of standing upon some cold substance. The first process is perfectly safe, and may be tried; the second certainly is often effectual, but it is not devoid of danger. Active friction is quite the best temporary remedy. Cramp affecting the arms is always to be regarded with suspicion, if it recurs, a medical opinion should be taken.

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* An excellent application as an ointment may be made with one drachm of Oxide of Zinc, one drachm of Lead Solution, and an ounce of Lard.

Refer to—*Convulsion—Spasm, &c.*

CRANIUM.—The skull containing the brain.

CRADLE.—The old form of child's bed, is now nearly superseded by the more convenient bassinet. Either, if well arranged, should have a tolerably firm mattress, a *firm pillow*, a piece of protective waterproof cloth over the mattress, and soft blankets, but *no curtains*, which are quite incompatible with the health of the child. Rockers beneath, if they allow only very gentle motion, are admissible, but not otherwise.

Refer to—*Children.*

CREAM—is that bland oily portion of the milk which separates and floats on the top; its composition is very nearly that of fat. It is a constituent of the milk of all animals. As the amount of cream, contained in cows' milk especially, varies considerably, the proportion may be ascertained by allowing the milk to repose in tall cylindrical glasses. Zinc pans have been recommended for use in dairies, as exerting some chemical action upon the milk, and causing the more abundant separation of cream. If there is chemical action, there must be danger of impregnation from the metal, and though it may be slight, it is better avoided.

Cream is nourishing, but not suited for weak stomachs, except in *small quantity*, mixed with other articles of diet, such as arrow-root mucilage, when it may sometimes be advantageously substituted for a larger proportion of milk.

Refer to—*Milk.*

CREAM OF TARTAR, or Bi-tartrate of Potash. See *Potash.*

CREATINE, or Kreatine,—is a crystallizable substance, existing in the flesh of animals.

CREASOTE—obtains its name from its powerful antiseptic properties. When pure, it is a colourless fluid, of a strong penetrating odour, which is known to most persons from its being extensively used as a palliative in toothache. It is obtained from tar, and, for that reason, is sometimes called "spirit of tar." For allaying the pain of toothache, its power is superior to that of any other remedy. A single drop of creasote rubbed up with a little sugar or gum, in an ounce of water, will often allay obstinate vomiting.

It makes into pill very nicely with crumb of bread; but the pills should not be kept for more than three or four days; it may also be given with spirit of juniper, or with acetic acid—vinegar—which dissolves it. It disgusts some patients, but others like the smoky flavour, and in such cases it is a specific against sea-sickness, and rarely fails in the vomiting of pregnancy. It is an admirable ingredient for pomades for chilblains, threatening, incipient, or ulcerated, five or six drops being rubbed up with the ounce of lard. Dr. Cormack in his treatise on creasote—Edin., 1836—brought forward many arguments and facts to prove that the Egyptian mummies owed their preservation, as well as their medical virtues to creasote, and upon the occasion of the unrolling of an Egyptian mummy in 1850, the same author addressed a very interesting communication to the Athenæum, of June 15th, 1850, in which he seems to establish beyond doubt that the essential part of the mummifying process was the application of heat to bodies filled with bitumen. He shows, upon the authority of Royer, &c., &c., that large quantities of bituminous substances were *always* introduced into the body, and that the strong heat was then *always* applied.

CRESSES—in the various forms of land and water-cresses, are wholesome salads, but like other vegetables which are eaten uncooked, are not likely to agree with those of weak digestion. Water-cresses, so famed popularly, for their effect "in purifying the blood," probably owe their beneficial influence to the presence of a small portion of iodine.

CRETINS—are individuals in whom deficient development of the brain, and of the body generally, is associated with mental imbecility. Cretins are met with in various quarters of the world, and even in this country, but their peculiar location is in the dark, deep valleys of Switzerland. The condition is often associated with the existence of bronchocele, and the two diseases have been considered as connected, but it is probably not more than coincidence of exciting cause.

The most characteristic features of cretinism are, the stunted stature, which seldom exceeds four and a-half feet, the deformed head, large belly, and distorted limbs, the countenance being an index of the imbecile or idiotic condition of the mind. There are, of course, various grades of cretinism. The malady is instructive in showing how strong an influence is exerted upon the development of the human frame, by circumstances such as surround these unfortunate beings in their childhood; deficiency of light, and deficient change of the damp malarious atmosphere of the deep valley. It is also to be feared, that it exemplifies the power exerted by the habits of the parents upon their offspring, and that drunkenness and debauchery of the former, often entail cretinism upon the latter. There is no chance of amelioration, either physical or mental, unless the cretin is removed from his native home, to the free air of the mountains above[*] The endeavour to improve the condition of these unfortunates is now being made in an establishment situated on one of the Swiss mountains, under the care of a philanthropic physician—Dr. Guggenbuhl[†] who is devoting his life to the object. The results obtained, both mental and physical, are said to be encouraging.

CRISIS[‡] in disease, means a sudden change, tending either to recovery or death. Much more importance used formerly to be attached to the critical periods of diseases than there is at present, although, in some, undoubted periodical changes do take place, but not with sufficient certainty or regularity to admit of much calculation. A crisis has generally been considered to be denoted by some well-marked circumstance, such as profuse perspiration, discharge of blood, cutaneous eruptions, boils, abscesses, or the like, or by the appearance of copious deposits or sediment in the urine; and there can be no question, that decided and persistent improvement in the character of a disease does often follow immediately upon the occurrence of these "critical" ejections.

Refer to—*Fever*, &c.

CROTON OIL—is obtained by pressure from the seeds of a shrub, the *Croton tiglium*, a native of Hindostan, Ceylon, &c. The oil, when good, should be of a pale amber colour, about as thick as castor oil. It is very acrid, and so powerfully cathartic as to be a very unsafe remedy for domestic use internally, and, indeed, should never be so resorted to, except in the one case of apoplectic seizure, when medical assistance is at a distance. In such a case, a single drop of croton-oil—if it is procurable—mingled with a little sugar, might be placed on the tongue.

As a counter-irritant, croton-oil is extremely useful; it may be made into a liniment, with equal parts of the strong solution of ammonia and water, or it may be used alone. It brings out a thick crop of pustules, when rubbed on the skin in small quantity; it sometimes, however, affects not only the part to which it is applied, but causes a general cutaneous eruption, with swelling of the eye-lids, and occasionally will exert the latter effect upon persons who happen to be near whilst the oil is used. It is not improbable, that what are said to be concentrated preparations of castor-oil, contain croton-oil.

CROUP—is an inflammatory affection of the larynx, and upper portion of the air passages. It is peculiar to children—males are more liable to it than females—and when one in a family suffers from the disease, the rest almost certainly have a tendency to it. The malady seldom occurs during the first year of life, but is most frequent in the second; at puberty the tendency to it ceases, although cases of genuine croup have occurred after that period. The rapidity with which croup at times progresses to a fatal termination, and the distressing character of the malady, always render it a dreaded disease, fortunately, it is one which, if taken in time, is greatly under the control of well-directed treatment. Its dangerous nature must ever make proper medical advice a necessity, but the importance of early active remedial measures, renders it at the same time highly desirable, that treatment should be resorted to without the slightest delay. Moreover, the well marked characters of the disease, render it easily distinguishable by the unprofessional, doubly so by those who have once witnessed it, or heard its peculiar cough. The great danger in croup arises from the possibility of the narrow chink in the larynx through which the air passes, becoming closed by swelling; but also from a remarkable product of the peculiar inflammation, which is formed upon, or thrown out by, the lining membrane of the trachea and larynx; this formation, "false membrane," as it is named, resembles thin leather of an ash colour, it takes the form of the tube which it lines, and indeed is sometimes coughed up in perfectly tubular portions; more generally, however, when this false membrane forms, death is the result, from its clogging up the narrow chink of the larynx, and preventing the ingress of air to the lungs. Croup may begin apparently suddenly: a child goes to bed to all appearance perfectly well, and in the course of two or three hours comes a cough, which strikes even the most unobservant as peculiar, which falling upon the ear of the anxious parent, who has ever heard it before, tells at once of danger. The child seems as if it coughed through a brazen tube. Perhaps at first the little invalid is not awakened, and if now visited, is found flushed and fevered, moaning slightly, perhaps, and restless, the breathing slightly quickened; the cough comes again, the child awakes or is awakened, if it speaks the voice is hoarse, if it cries, hoarser still. Should the disease be neglected at this time, or go on uncontrolled, the cough, still retaining its peculiar character, becomes more frequent, the breathing quickened, is also accompanied by the characteristic dry wheezing occasioned by narrowing of the passage through which the air is drawn, the head is thrown back in the efforts to breathe, respiration is insufficiently performed, and the blood being insufficiently changed, begins to evince its deteriorated character in the blue colour of the lips, the dusky coldness of the skin, and the affection of the brain, which gives rise to partial insensibility or delirium. The pulse previously quick, becomes still quicker, but at the same time feebler, and at last the child dies in a state of almost unconscious suffocation. There may, however, in the progress of the disease be intervals of comparative ease, alternating with paroxysms of spasmodic obstruction to the breathing, threatening, and sometimes causing, immediate suffocation. The average duration of a fatal attack of croup, is from three to four days, but it may, and does, terminate much more speedily. When under proper treatment the disease is checked, the first best sign is the cough, beginning to "loosen," the breathing at the same time becoming tranquil, and the skin moist; the pulse changes from its hard quick beat to one of a softer and a slower character. Croup does not, however, invariably begin suddenly; frequently the child has been suffering, apparently, from common cold in the head, and the attack of croup seems to be a consequence of the inflammatory affection of the membrane of the nose and throat, extending into the trachea, and taking on the peculiar character of the more fatal disease. At other times there has been slight drowsiness for some days previously, but not sufficiently well marked to attract attention, although at the same time, from hoarseness not being common among children, its occurrence should always rouse suspicions, especially if the child itself, or any of the family, have suffered from croup. Sometimes a child will have a croupy cough for some nights in succession before the attack of the real formed disease, and parents are apt to be lulled into security by the fact, that in children susceptible of croup, any cough partakes more or less of the shrill croupy intonation. Another, and highly dangerous form of croup* is that in which the inflammation commences on the throat, the tonsils and soft palate, and uvula, which quickly become covered with an ash-coloured membrane; at first the child is supposed to be merely suffering from sore throat, for there may be little or no cough, or embarrassment of breathing, but the inflammation extends downwards into the air passages, and the croupy symptoms become developed; by the time this stage is reached the case is all but hopeless. Fortunately this dreaded disease, the most distressing, perhaps, by which a parent can lose a child, is, in every form but the last, amenable to proper remedies adopted at once; so strikingly, indeed, is this the case, that it is very common to find parents taking the matter in their own hands after they have seen a child treated for the disease once or twice, keeping, *as they ought to do*, a supply of the proper medicines constantly at hand, and by their prompt application, nipping the incipient attack in the bud; the medical attendant is either not sent for, or if he is, it is only to find that the proper treatment has been followed, and the disease checked.

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[*] Frequent intermarriage among the inhabitants of these sequestered valleys, is no doubt one of the most important causes of Goitre and Cretinism, and every means ought to be used to discourage it.

[†] Dr Guggenbuhl is recently deceased; his results have not been altogether what was anticipated.

[‡] This term is also extensively used to denote the time at which mineral waters administered either externally or internally develop their characteristic effect.

The remedy, in incipient croup, is tartar emetic given in tolerably full doses, either in the form of solution in water, or rubbed up with sugar, but never as antimonial wine. The form of a powder, one or two grains of sugar with the appropriate dose of the remedy, is the best form for keeping, as the solution decomposes and becomes inert, but the latter is perhaps the most quickly efficient form of administration. In a house which contains a child liable to croup, six or eight of the powders ought to be ready at all times, and also bran bags. To a child of two years of age, the eighth of a grain is to be given at once, to one of four years the sixth; and this dose is to be repeated every ten minutes or quarter of an hour, till full free vomiting is produced. At the same time a warm bath may be got ready, into which the child is to be immersed for a quarter of an hour as soon as possible, or what will in the author's opinion answer equally well, large poultices of hot moist bran should be placed over the upper part of the chest and fore-part of the throat, whilst the child is kept in a sufficiently warm situation. In the habitations of the poor, especially, the latter mode of treatment is certainly preferable to the bath, which cannot always be procured without delay, nor managed without danger of after chill. An hour after the vomiting, the dose of tartar emetic is to be repeated, and vomiting again excited, and its subsequent repetition at the end of one, two, three, or more hours, must depend upon the continuance and urgency of the symptoms; the bran poultices being continued. The child may be allowed to drink freely of toast or barley-water, or thin gruel, but not tea—which decomposes the tartar emetic—unless the infusion is extremely weak. If a case of incipient croup be thus treated, it will, in all probability, and may be subdued without medical assistance—though it is certainly safer to have it; but if the fever is extremely high, and if the breathing has any approach to a crowing sound, medical attendance *must* be procured if possible, and with the shortest possible delay. If it *cannot* be procured, and if the attack does not seem to yield after the second or third doses of tartar emetic, leeches must be used—one, as a general rule, for each year of the child's life—not on the throat itself, but over the upper part of the breast-bone, in which situation a blister must also be placed, if it be tried, as it may be, later in the disease. If, after tartar emetic has been used for four or five hours, the disease progresses, the frequency with which the remedy is given must now be diminished, and sickening doses given at longer intervals, otherwise there may be danger of depressing too much; but calomel must be commenced with, and to a child of two years of age, a grain is to be administered every four hours; the strength, if it seems to fail, should be supported with weak animal broth—that made from veal or fowl is the most suitable—given in small quantity and at short intervals. Later in the disease, when weakness increases, the strength of the broth must be increased, the tartar emetic entirely stopped, and solution of acetate of ammonia given instead, a teaspoonful every two or three hours to a child of three years old, or if symptoms of sinking, cold or blue surface, and weak pulse, seem to demand it, five to ten drops of sal volatile, or the same quantity of brandy, must be given in a little water, or the carbonate of ammonia resorted to; eight grains should be dissolved in an ounce and half of water, and of this, two tea-spoonfuls given during one hour. A little white wine whey may also be given. Such must be the general outline of treatment to be pursued in a case of confirmed croup, should it fall to be treated without the presence of a medical man, but again it is reiterated, the first twelve, nay the first eight hours, are the all-important period, which, if lost, can scarcely be recovered* for though children do recover when the disease has advanced into its second stage, and even sometimes from such desperate circumstances as to make it a duty never to despair of saving life, the chances are but small compared with those which the first few hours hold out, that period, which in some situations *must* elapse before medical assistance can be procured, and which thus places the life of the child in the hands of a parent or guardian. If it is croup, even *if* it is suspected to be, let there be no temporizing, but let the treatment now laid down be promptly, actively, *unsparingly*, carried out. If the antimonials act strongly on the bowels, they should be checked with one or two drops of laudanum. Bleeding from the arm is practised by medical men in croup, but cannot be a safe proceeding for the unprofessional. In the last stage, opening the windpipe holds out the last, and that but a faint hope of saving life. Of course a surgeon is required for its performance, *if the parent consents to it.*

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* Refer to Diphtheria – See Appendix.

In that fatal form of croup, which commences in the fauces, an unprofessional person can do but little with hope of success; if discovered in time, medical aid should be procured; the local application of the solution of caustic to the whole surface within sight, and to the interior of the larynx, may be successful. If croupy symptoms have come on, one or two emetics of ipecacuanha may give relief; but the case is so desperate, that it is a question whether, in the absence of the medical man, it is not better left entirely alone. If, however, the life of one child cannot be saved, the *possibility* of this form of the disease extending to the others of a family by contagion, should be known, and guarded against, by timely and effectual separation† But should another child become affected, the disease being thus discovered at once, a solution of lunar caustic—nitrate of silver—should be made, in the proportion of twenty grains to the table-spoonful of rain water‡ and the inflamed throat thoroughly brushed over with it, with a hair pencil, and the process repeated in eight or ten hours. If fever is present, *small* doses of tartar emetic, the twelfth of a grain, should be given every three or four hours to a child of six years of age, and two grains of calomel every eight hours, and an aperient given if required. These measures are to be followed out until medical assistance is procured.

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* The importance of having a "Dictionary of Medicine" at hand in such a case, must be evident to every one.

† Refer to Diphtheria—Appendix.

‡ The Author has found the best results from substituting Nitric Ether for water, by which means a solution is obtained in every way superior.

The causes of croup are almost invariably connected with cold and moisture, and particularly during east winds, hence, on the east side of Britain, the disease is considered to be more prevalent than on the other; but it may also be occasioned by the removal of wrappings from the throat, and exposure to a cool air, when a child is heated. Children liable to croup, are still more so after attacks of acute or debilitating disease.

The prevention of croup is, of course, of the highest importance, and, therefore, the causes of it, just enumerated, must be avoided in every way: slight colds should never be neglected in children or families predisposed, but should be treated by confinement to the house, or to bed if requisite, by milk diet, diluent drinks, and by the tolu and mucilage cough mixture, with the addition of ipecacuanha wine; paregoric should also be given to allay troublesome cough, and, in fact, those measures recommended in "cold" carried out. The susceptibility may also be lessened, by not clothing the throat too warmly, and by the regular practice of bathing the throat and chest well with cold water every morning, rubbing afterwards with a rough towel till thorough reaction ensues. This practice is, of course, better commenced in warm weather, and not too soon after an attack of the disease. Flannel should always be worn next the skin, and care taken particularly, that bed-chambers, and rooms children habitually live in, are not too warm, and never occupied whilst the floors are wet after washing. A residence at a distance from water is to be preferred.

Refer to—*Antimony*—*Children*—*Larynx*—*Trachea*, *&c.*

CROUP — SPASMODIC, or CHILD-CROWING—is a species of convulsive or spasmodic affection of the muscles of the larynx, which, by narrowing and closing the chink in that organ, through which the air passes, occasions the sound of the breathing to resemble that of the true inflammatory disease. This spurious croup is often an alarming, and sometimes a fatal disease; it generally occurs before the end of the third year of life, and in consequence of irritations acting more or less at a distance from the affected larynx, which receives the impressions through its nerves. Enlargement of the glands of the neck, affections such as eruptions of the scalp, the irritation of teething more especially, or the presence of irritating matter in the bowels, may any of them give rise to the affection. It comes on suddenly, the child is seized in a moment with "catching at the breath," struggles, the face changes colour, and the veins are full; if the spasm be not relaxed, after a few ineffectual efforts at breathing, the child must die; but if the spasm gives way, the air is drawn into the chest with a crowing, croupy sound. It is of much importance that this spasmodic disease should be distinguished from real inflammatory croup, on account of the very different treatment required; it may be known by the absence of fever, the stopping of the breath being much more instantaneous than that which occurs in the real disease. In an affection presenting symptoms so sudden and so alarming, *immediate* remedies must be used; a little cold water should be dashed on the face at once, and, as recommended by Dr. Watson, a sponge dipped in hot water applied to the fore-part of the throat: medical assistance being, of course, procured quickly.* In this disease, a child, even when apparently dead, might be saved by opening the windpipe. After one of these attacks have occurred, the strictest examination as to the probable cause should be instituted by a medical man. The gums lanced if requisite, the bowels cleared with a purgative, and the glands of the neck specially observed, and, if enlarged, the cause ascertained and removed.

Refer to—*Convulsion*—*Glands*, *&c.*

CRUSTA-LACTEA,—an eruptive disease affecting the head and face. See *Skin, diseases of.*

CRY OF CHILDREN.—The principal distinctive difference in the cry of children is, whether it be that of expiration from, or inspiration into the lungs. The cry of a strong child, suffering pain, is more of the expiratory, that of a weak exhausted child, of the inspiratory or sobbing character.

CRYSTAL LENS.—See EYE.

CUBEBS, or CUBEB PEPPER,—is the fruit of a climbing plant, a native of the islands of the Indian Ocean. It is used in affections of the urinary organs. The dose from a half to a whole tea-spoonful.

CUCUMBER,—a pleasant article of diet for the strong, but a very unwholesome one for invalids.

CUMIN—is the fruit of an umbelliferous plant, a native of Greece and Egypt. The seeds contain an aromatic volatile oil. Cumin plaster is stimulant to the skin, and useful in cases in which very active excitant action is uncalled for.

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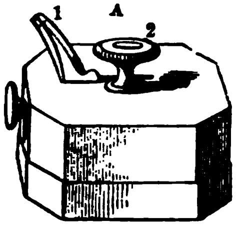
* Ten or twenty drops of Chloroform dropped on a handkerchief and applied loosely over the face, so as to allow of inhalation, will often relieve the spasm.

CUPPING—is a process of blood-letting, by which blood is drawn from wounds made for the purpose, by the agency of suction, exerted by a cup or other vessel exhausted of air, or nearly so. It is a very old surgical expedient, and in former times it was, and, indeed, among uncivilized nations at the present time, it is still effected by the primitive agency of a sharp flint or knife, and a cow's horn with the tip removed, suction being made by the mouth of the operator. In modern surgery, cupping, *when well performed*, is at once one of the most elegant and most useful of our methods of treatment. For the purpose of wounding the skin, a metallic box, containing a set of lancets, varying in number, is provided; in this box—fig. A—which is called the scarificator, the lancets are so fixed as to be discharged, when set or cocked, by a trigger—1—and spring, which cause them to pass rapidly through the skin in a semicircular sweep, so rapidly indeed, that the usual sensation of cutting is not felt. The most convenient number of lancets is twelve, and the depth of the wound made by them can be increased or diminished by turning the screw—2; this must be done while they are fixed at half cock, and protruding from the instrument. The only other essentials for cupping are, a vessel from which the air can be exhausted, and kept so when it is applied to the skin, and a flame of some kind, or some other means, for exhausting the air. There are, however, sundry other little requisites convenient for the operation, to be mentioned hereafter.

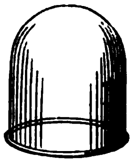
A



Cupping is applicable in most instances where local abstraction of blood is called for, and may often be substituted for leeches, and even for general bleeding; it is a safe operation when used in proper situations, and most may be taught its performance by a few practical lessons; it is, moreover, a most useful accomplishment for persons who are far removed from medical assistance. It is hoped that the following details may be sufficiently clear, to enable even those who have never seen cupping performed to effect it in case of need; but by all means, let every one who contemplates the possibility of such a requirement get practical instruction, which there can be no difficulty in doing.

Cupping glasses of various kinds are, and have been used, but the most general is the bell-shaped form—fig. B—of various sizes; some of these are made with brass fittings at the top for the attachment of an exhausting syringe; but the most useful form of all, and that most easily applicable by an unpractised or an unprofessional hand, is the leech cupping glass—fig. C—which is the invention of Dr. Fox, of Derby. When this is used, the next instrument, the lamp or torch—fig. D—is not required as it is for the application of the bell-shaped glass; this torch is simply a lamp made for burning spirits of wine, by means of a wick which will afford a large flame.

B



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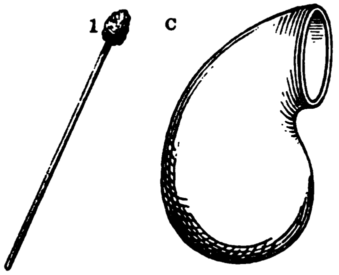
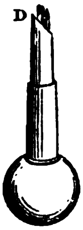


Cupping may be performed in most situations on which it is possible to fix a glass, by a proficient, but the range of the unprofessional operator must be much more

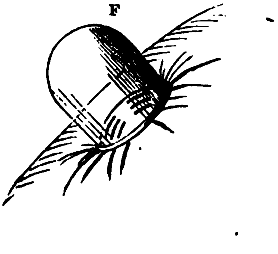
D



limited, partly on the score of safety, but also for the reason, that in some situations they are not likely to draw blood sufficient to effect any good object. As a general definition, an unprofessional person may cup anywhere upon the back of the trunk of the body, from and including the nape of the neck, to the bottom of the spine, and also on the fore part of the chest. In selecting a place within the above limit, it should always be ascertained that there is room for the rim of the glass to be in contact with the skin throughout its entire circle. It being pre-supposed that the abstraction of blood is called for, and it being also pre-supposed that the intending operator is provided with the necessary instruments; he should also have some warm water, a good-sized piece of sponge, or, in lieu of it, a piece of flannel, a light, and some plaster.

The person to be operated upon being conveniently placed, and the skin bared, it should be moistened with warm water, or the circulation of the part excited by means of hot water fomentation applied for some time; an exhausted glass is then to be applied for a few minutes, removed, the scarificator placed upon the portion of skin which had been drawn up by the glass, and the lancets, which have been put on full cock, discharged. The scarificator being removed, the exhausted glass is again to be applied over the wounds made by the lancets—fig. F—the blood ought immediately to commence flowing. If the bell-shaped glass is used, when applied, one edge should be made to rest upon the skin—fig. E—the flame of the spirit-torch passed rapidly under it, and withdrawn, and the glass at the same instant pressed entirely down upon the skin. This is the point of the operation most difficult to perform well and efficiently by the unpractised; for if the exhaustion is incomplete, suction, and consequently the abstraction of blood, are so likewise; and in endeavouring to make the movements quickly, there is a liability of burning the skin. Fortunately, an individual can practice the manœuvre upon the skin of his own thigh at any time. Much of this is avoided by the use of the leech cupping glass, from which the air is exhausted by simply putting into it a small fragment of paper, half-an-inch square, dipped in spirits of wine, or spirit of some sort. A short piece of wire—Fig. C 1—with a small portion of tow tied to the end of it, and dipped in the spirit, is used to ignite the paper in the glass, the latter being applied to the skin the moment this is done, and the wire withdrawn; the confined air extinguishes the lighted paper in the cupping-glass at once.

F



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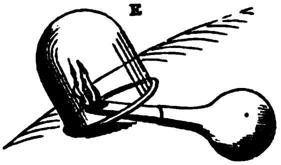

In addition to simplicity in application, the leech-glass has also the advantage of taking at once a considerably larger quantity of blood than the other form, and thus of requiring to be less frequently re-applied; moreover, the blood, as it flows, gravitates to the bottom of the glass, and does not clot over the wounds, as it does with the bell-shaped instrument. These remarks do not refer to the quick, elegant, and efficient manipulation of a professed cupper, but as the operation must be in the hands of the unskilled. When an applied cupping-glass is to be removed, it must be done by pressing down a portion of the skin at its edge with the point of the finger, so as to admit the air, which enters with a hiss. If, after a cupping-glass has been on some time, the blood does not flow freely, but clots upon the wounds, and if it is desirable that more blood be drawn, the glass should be taken off, and—when the wounds have been cleansed with warm water—re-applied. When the operation is concluded, it is only necessary to cleanse the wounds, which will not continue to bleed in the situations indicated for cupping in this article, and to put a little adhesive plaster upon them.

Such is the operation, under the pre-supposition that the operator is provided with the requisite instruments, but in the absence of these, very good substitutes may often be made. To make the incisions, which should be about the eighth of an inch in depth, any sharp instrument will suffice; for the cup, a tumbler or any similar vessel with a *uniform rim* will do; and to exhaust the air, whatever will blaze freely. In cases of poisoned wounds, the application of a cupping glass, where it can be done, either with or without enlargement of the original wound, is a good precaution, and will retard the absorption of the poison, during the interval of procuring medical assistance.

Dry cupping is a most useful remedy, perhaps too little used; it is the application of the cupping-glass for from ten to twenty minutes, without any previous scarification. The blood is thus withdrawn from parts in the vicinity of that operated on; and relief afforded, without weakening by actual abstraction of blood. In local congestions of blood, in local pain, &c., it is often of much service. The principle of dry cupping has been brought forward as a remedial measure on a large scale by M. Junot, who, by means of vessels capable of being exhausted after the manner of a cupping-glass, and which are made sufficiently large to include a whole limb, thus draws temporarily a great mass of blood—from three to four pounds—out of the current of the general circulation, and produces the effect of a large bleeding, without its weakening results. The method is said to be successful, but it has not been much employed in this country.

Cupping is certainly a most useful accomplishment for the emigrant. It is a safe method, and when once practised, an easy one, of blood-letting; but, by all means, let it be practically learned if possible, and then the above, though meant for all, will be more certainly useful in bringing back to the memory the minutiæ which so aptly escape it. The chief inconveniences of the leech cupping-glass are its greater bulk and liability to fracture than the bell-shaped form.

CURD.—See *Cheese*.

CURRANTS,—the well-known fruit, either black, red, or white, are extremely wholesome, disagree with few, and are particularly well adapted, either fresh or cooked, to form part of the cooling diet requisite for health in very hot weather. Moreover, the mechanical action of their seeds has a most beneficial effect in exciting the bowels. Some bilious persons say they find benefit from eating a few ripe red currants a short time before breakfast, and that the practice tends to keep off the increased liability to bilious attacks during the hot weather, when currants are in season.

The black currant possesses more astringency than the other varieties, and when preserved, is much domestically used in sore throats, &c.; it also acts upon the bowels. Boiling water poured upon a portion of currant preserve, and the infusion allowed to cool, forms one of the pleasantest and most useful of our fever beverages. Black currant leaves are used in infusion, as a domestic diuretic. What usually goes by the name of the dried black currant, is no currant at all, but a species of small grape. It is brought almost solely from the islands of the Levant. It is a favourite domestic aperient—particularly in the lying-in chamber—mixed with gruel. It probably acts mechanically.

CURRY is food of any kind prepared with the well-known condiment, curry-powder, which is composed of turmeric, cayenne, and black peppers, mustard, ginger, and other spices.

The preparation is not adapted for invalids, and should only be used sparingly by those in health, especially if they have any tendency to irritation of the stomach and bowels, or to head affections. It is probably better adapted, as regards wholesomeness to give requisite stimulating power to the rice and other foods of hot climates, than as an addition to an animal diet.

*CUT.—See *Wounds*.

CUT-THROAT.—In this horrible casualty two dangers chiefly threaten life immediately; the one, death from immediate bleeding, if any of the large vessels of the neck have been divided, or if this has not been the case, death from blood finding its way into the windpipe. In the first, few unprofessional persons could possess on the instant either sufficient knowledge or presence of mind to render much efficient assistance, certainly not in the case of the large arteries; but bleeding from a small branch might be arrested by the means suggested in article *Artery*. Should a superficial vein be wounded, and pouring out dark blood, gentle pressure in its course, between the wound and the head, might be of service.* To prevent the danger of suffocation, when the windpipe is opened, and when the bleeding does not immediately threaten life, the position of the person is the principal thing to be attended to; this should be either on the side, or on the face, in whichever situation fluids may most easily run off without entering the tube. This being done, and some light gauze material thrown loosely over the wound, nothing more should be attempted before the arrival of that medical assistance which must as speedily as possible be procured. Above all things, no attempt should be made to close the wound.

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* Cusso—See Kousso.

Refer to—*Artery*—*Hæmorrhage*—*Wounds*.

CUTANEOUS.—Belonging to the skin.

CUTICLE.—The epidermis or scarf skin. See *Skin*.

CYDER.—The well-known fermented drink, made from apples. Its characteristic principle is malic acid. It contains but little alcohol, not above 9 per cent., and is generally considered wholesome, but to its use has sometimes been attributed a form of dry belly-ache, resembling painter's colic, which occurs in cyder districts. There appears, however, to be some doubt whether this is not owing to accidental impregnation with lead, which readily combines with the malic acid of the cyder.†

CYNANCHE.—A term applied to affections about the throat, which tend to produce suffocation.

CYST.—A membraneous-like bag, within the body, containing morbid matter. The matter varies much in consistence and appearance. Cysts frequently form just beneath the skin, and some persons are peculiarly liable to them. In aged people, cysts often form, and are conspicuous upon the head. Cysts, in superficial situations, are generally quickly and easily removable by the surgeon. The upper eye-lid is often the site of a small cyst.

DALBY'S CARMINATIVE is a quack compound of carbonate of magnesia with various essential oils. It also contains opium, and this fact alone ought to be sufficient to exclude it from use. Magnesia, carminative distilled waters, and opium likewise, are all, unquestionably, *when properly employed*, useful even for infants; but in the majority of cases, the latter drug is quite uncalled for, and when it is necessary, its administration requires the utmost care and circumspection of the medical man; it cannot, therefore, be a matter of indifference, whether a medicine sold and kept for general use contains so powerful an ingredient as opium, or whether, when a simple mixture of magnesia, or chalk and dill water will answer every purpose, a medicine—that is opium—is given, which cannot fail to act injuriously, unless positively indicated by the peculiar circumstances of the case. A dose of "Dalby" will undoubtedly "still" a child, perhaps more quickly than a simpler or more cautiously combined preparation; but its very power of action in this respect, indicates its power likewise of inflicting evil consequences. If a carminative simply is required, a simple carminative should be given, in some such mode as that recommended in the article *Children*. If opium is called for, let it be given—under medical sanction—as opium, in known and graduated doses; but it is criminal folly to use it in the indefinite hap-hazard way in which such productions as the one in question are used. "According to Dr. Paris, there are five drops of the tincture of opium to two ounces of this mixture; but in another formula it is stated that this tincture forms one eighteenth part of the liquid. Like most of these quack preparations, it probably varies in strength. An infant is reported to have been destroyed by forty drops of this preparation — a quantity equivalent to little more than two drops of the tincture of opium."—*Taylor's Jurisprudence.*

The possibility of any preparation intended for children, containing a variable proportion of opium, ought to be sufficient to deter those who have the care of the young from hazarding either the lives of the latter, or their own peace of mind, by its administration. Moreover, it is impossible, habitually, to give opium, even in small doses, to children without injury, even if fatal consequences do not result.

Refer to—*Opium*—*Quack Medicines*, *&c.*

DARNEL GRASS is a species of rye-grass, the seed of which has a beard, or awn, like barley, and which, unlike the grasses generally, is poisonous. It is more common on the continent than in Britain, and the seeds are occasionally so abundantly mingled with those of barley, or other grain, as to cause symptoms of poisoning, in those consuming articles of food made from the meal—a point of some consequence, now that so much continental grain and meal is consumed in this country. When chewed, meal containing darnel grass causes a burning sensation in the throat, and giddiness, headache, and lethargy follow. An emetic would probably be the best remedy.

DAMP.—Moisture is one of the most

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* Or the direct application of pressure by the fingers, or of cold cloths to the bleeding point.

† There can now be little doubt that there are two kinds of Colic produced from the use of Cyder, the first simple, from drinking old Cyder, in which Malic and Acetic Acids are largely developed. The second, Lead Colic, from the combination of these acids, and the consequent impregnation of the Cyder with lead in which it has been kept, or with which it has been brought in contact, in some other way.

prolific and most generally acknowledged sources of disease; in whatever way applied to the body, whether in atmosphere, or clothing, or bed, it is alike apt to be productive of bad consequences, often of the most serious character. When combined with decaying vegetable matter, and more especially when favoured by heat, fever and ague are the results of undue moisture; when cold and damp unite their depressing influences, colds of every kind, inflammatory attacks, scrofula and consumption, rheumatism and neuralgia ensue.

Dampness, or injurious excess of moisture, may depend upon the natural formation of the country, or character of the soil, or upon a superabundant growth of timber, which obstructs the drying effect of the sun's rays, and of a free circulation of air. The effects of these conditions are evidenced by the agues of the marsh districts, the cretinism of the low, dark, damp valleys of the Alps, the fevers of the tropical forests and African rivers, or in a lesser degree by the relaxing effect of a damp and somewhat mild climate, like that of Devonshire. The advance of the improvements of civilization does much, if it cannot do all, to rectify these sources of disease, the cutting of water courses, the clearing of timber, are for the most part attended with increased salubrity of the district. The latter, of course, requires circumspection; for much harm may be and has been done by the injudicious removal of protecting belts of trees; neither must it be forgot, as mentioned in article *Ague*, that the intervention of a wood may prevent the extension of the malaria of a marsh. But the shelter of trees is a different thing from closely encircling a house with them; they *will* retain moisture around, more or less according to the nature of the soil and the denseness of their growth, and in a way which is not compatible with health.

Dampness and moisture in excess, cannot of course be prevented, when owing to the vicinity of large bodies of water, but in such a case the chief evils to be dreaded are the cold winds which "come off the water" laden with vapour, and which, as happens in many situations, are liable to produce croup in children, and catarrhal affections in the predisposed. If these influences cannot be guarded against, of course removal is the only remedy.

Damp houses must be unwholesome; if occupied too soon after building, disease especially of a rheumatic character, is the frequent consequence. Most generally, insufficient drainage, particularly in the country, is the cause of dampness, and it is moreover, after a house has been built, one difficult to rectify, but it should be done as far as possible; even houses, which apparently stand high, are damp from this cause, especially if the ground slopes to, as well as from them. If no other remedy is available, nothing is so effectual as covering the damp floor with sheet lead, which effectually excludes the moisture, if it does not do away with the cause.

Damp clothes and beds are so generally recognized as causes of disease, that the fact scarcely requires to be insisted on, or indeed the additional one, that when the former are unavoidable, the danger is much if not wholly done away with by continued active motion, which keeps up the animal temperature, and it is probable that this preventive, not being available in the case of the latter, renders a damp bed almost synonymous with disease and death.

Damp, in most instances, acts, undoubtedly, by abstracting, either by evaporation or otherwise, the natural temperature of the body; but as dry cold does this likewise without producing the same certain injurious consequences, it is probable that moisture also calls into action changes connected with the electrical conditions of the body, of the precise nature of which we are not at present cognizant. One thing is certain, that moisture is always more apt to act injuriously upon the system when the nervous power is either depressed, or not in its full state of activity, as it is during sleep, or for the first hour or more in the morning, after rising, and before food of some kind has been taken; hence it is always found that fogs and moisture are much more likely to injure during the first morning period, and that the best protection is some warm food or drink, which may support or gently stimulate the system.

Refer to—*Ague*—*Neuralgia*—*Rheumatism*—*Scrofula*.

DAMSON,—the well-known fruit, is wholesome when ripe; but for invalids should be cooked. It is slightly aperient.

DANDELION, or LEONTODON TARAXACUM, the plant native to this country, is too universally known to require description. Its leaves, when blanched, are used as a salad in some parts of the continent, and the root is sometimes roasted, and mixed with coffee. As a medicinal agent, taraxacum is too much neglected; to be found by every hedge side, it is one of the most certain and active diuretics we possess, whether native or foreign; and perhaps no better proof of its utility can be cited, than that the author always finds patients who have once taken the medicine, recurring to it again and again of their own accord. No doubt something is due—and it is a consideration of some weight—that it is procurable without expense; it rarely fails to increase very considerably the flow of urine. Various preparations, extracts, &c., of dandelion are recommended and are employed, and are undoubtedly efficient, but the fresh infusion of the recent root is quite the best mode of administration. For this, roots of not less thickness than the little finger should, if possible, be used, and after being washed from the soil, sliced transversely in pieces a quarter of an inch thick. Of these, a good double handful, or from two ounces and a-half to three ounces, are to be put into a jug, a pint of boiling water poured upon them, and the whole allowed to infuse for an hour or two beside the fire, *but not boiled*. The infusion will have a greenish brown colour, and two or three cupfuls should be taken during the day, until the desired effect is produced. The taste is not very unpleasant, is slightly bitter, and to some mawkish, but may be improved by the addition of a little orange peel. In addition to its action in increasing the flow of urine, taraxacum improves the tone of the digestive organs, and most certainly exerts a stimulant action upon the liver; indeed, it is in disorder of the digestive organs accompanied with deficient action of the kidneys, the urine being scanty, high coloured, and depositing a *pink* sediment, that dandelion exhibits its beneficial influence most apparently. It may advantageously be combined with broom, as a diuretic, and of course with other medicines, such as the tincture of calumba, with potassa, &c.*

Refer to—*Broom*—*Liver*—*Kidneys*.

DANCING, *properly so-called*, is the active exertion of the body in sprightly graceful movement, accompanied with exhilaration of mind, and when thus indulged in by the young, is a most beneficial and healthful recreation. It is no argument against dancing in itself, that it is too often connected with many things that are injurious, such as heated rooms, late hours, and the like—these belong to other considerations; but as an exercise, congenial both to the minds and the physical requirements of the young, it is, as every exercise in which the mind enters with pleasure and interest into the exercises of the body, a most efficient promoter of health, and it is much to be regretted, that its abuse and associations, in some instances, both with physical and moral evil, should cause its abandonment in any place where there are young people.

DANDRIFF is the formation and separation of numerous thin white scales, or scurf, from the skin, and is most usual upon the scalp; but in persons of delicate skin, occurs also upon the face. In infancy it is very common upon the head, and among the poor there is a prejudice against its removal "for fear of cold," so that it is allowed to accumulate along with the dirt, and presents a most filthy appearance. Generally, the skin underneath, at the seat of dandriff, is not much changed, but sometimes it becomes reddened, and slightly irritable.

In adults, the disease, if it can be called so, is troublesome, from the quantity of scales, or scurf, which mingle with the hair and shake from it upon the clothes.

In any case, care should be taken to avoid irritating the skin, the hair-brushes should be soft, and the small-tooth comb—at all times a doubtful substitute for thorough washing—must never be used.

In the case of infants, washing regularly with soap and water, and the use of some simple pomatum, or of an ointment composed of ten grains of red oxyde of mercury to the ounce of lard, will remove the inconvenience; and either in their case, or in that of adults, an alkaline wash will be found useful. Mr. Erasmus Wilson recommends two drachms of solution of caustic potash to eight ounces of soft or rose-water.

DANGER.—See *Death*.

DATE.—The fruit of the date palm constitutes a considerable portion of the food of the people of Egypt and Northern Africa, Arabia, and Persia. The nutritive material is chiefly sugar. As imported into this country, dates are not a digestible article of diet.

DATURA STRAMONIUM.—See *Thorn Apple*.

DAWLISH—in Devonshire, occupies a narrow valley opening upon the sea. The environs abound in walks and rides, and the sea-bathing is good. Dr. Shapter speaks highly of the houses up the valley as a winter residence in pulmonary complaints; "so entirely is it protected from the prevailing winds at this season. During spring, however, this locality is not so favourable, on account of the east winds which then prevail, and to which, from its aspect, it is exposed."

DEADLY NIGHTSHADE.—See *Belladonna*.

DEAFNESS, or deficiency in the sense of hearing, may be either partial or complete, and it may be accompanied with dumbness. The causes of deafness may be temporary or permanent, and the affection may be due to disorder in the brain and nervous system, to disease and disorganization of the essential portions of the organ of hearing itself, or to causes which interfere with the transmission of sound.

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* When desired to act more particularly on the liver, and to promote the flow of bile, it is better to use one of the more concentrated preparations of which there are now several elegant forms to be found at the chemists.

The temporary causes of deafness may be such as have their origin in temporary disorder of the brain, resulting from external violence, or from disorder either local or general, more particularly some forms of fever, of which deafness is a frequent concomitant. Some drugs, quinine particularly, given in too large doses, also give rise to the affection.

Temporary deafness is frequently occasioned by common cold, which seems to cause tumefaction of the membranes lining the passage of the external ear, or when the throat is affected, obstruction of the eustachian tube—which extends between the internal ear and the throat—either by swelling, or accumulated mucus. These causes often continue in action, and keep up the deafness, long after the cold has disappeared.*

Permanent deafness may result from disease of the brain, such as paralysis, or from violence, such as severe blows or falls upon the head. The author has one patient, a gentleman afflicted with permanent partial deafness, the result of a dangerous fall when hunting, the effect upon the brain being evidenced by the fact, that his pulse which formerly ranged at 72, has never since exceeded, in health, which is perfect, 40 in the minute. Disease of the ear itself, or its effects, can scarcely fail to cause deafness. The internal portions of the ear are liable to a variety of disorders or diseases which it would be useless and out of place to notice in this work. Many of these take their origin during attacks of acute disease—particularly measles or scarlet fever—in scrofulous individuals. Discharges occur from the ears, and the minute bones contained in the cavity are sometimes discharged. To allow of this, of course, the membrane of the tympanum, or drum, of the ear must be wholly or partially destroyed. This important membrane of the ear being diseased, is often the occasion of deafness. As mentioned above, the obstructions, either in the outer ear passage, or in the eustachian tube, first arising from common cold, may become permanent; in the case of the latter, when the swelling subsides, thick mucus may block it up; in that of the former, hardened wax, or cerumen. This last mentioned cause of deafness is very frequent, is easily discoverable, and no less easily removed, affording most striking relief to an almost total defect of hearing. It is perhaps the only affection of the organ causing deafness, which is likely to be well or safely treated domestically. See article *Cerumen*.

The subject of deafness, and of diseases of the ear generally, has been greatly neglected by medical men, and consequently has fallen into the hands of quack aurists. Within the last few years, however, it has been taken up by more than one distinguished member of the profession, and promises fair to take the place its importance demands, and to have its causes and treatment investigated and established on a true, scientific and rational basis.

A person affected with temporary deafness, if it is traceable to an assignable cause, such as cold, should wait the effect of time for its alleviation. A blister applied behind the affected ear, or, better still, an eruption brought out just below the ear, by tartar emetic or croton-oil, may probably give some relief. If wax be suspected or ascertained to have accumulated, it should be removed, as directed under article *Cerumen*, but never by ear-picks or such-like dangerous weapons. When no assignable cause for the deafness, whether permanent or temporary, can be discovered, a medical man should be consulted—if he has given special educated attention to aural surgery so much the better—but unqualified quacks with nostrums and never-failing cures, must be shunned. No one, surely, can be so credulous as to believe that any application, or variety of applications, put into the outer ear—and strong stimulants are often used in this way—can be remedial for a symptom owing to causes so varied. Some varieties of deafness, are alleviated by appliances to the external ear passage, and some remarkable cases have been published of great improvement in hearing resulting from small pellets of cotton wool, or other substances, moistened and introduced so far into the ear, as to be in contact with the tympanum membrane, which had been perforated by disease. For moistening these, and indeed for moistening the passage of the external ear, when too dry,—an occasional cause of deafness,—or for moistening hardened wax previous to syringing, the fluid named glycerine, as recommended particularly by Mr. Wakley, is better adapted than the oil generally in use. Various other modes of treating deafness, with reference to its various causes, have been, and are employed. Its dependence upon obstruction of the eustachian tubes, has originated the practice of passing an instrument, or eustachian catheter, up these passages for the purpose of clearing them. The operation is one which requires both practice and tact for its safe and efficient performance. Some years ago the same thing was attempted by forcing air into these tubes by an instrument made for the purpose; but a fatal accident seems to have interfered with the continuance of the practice. Lately, the pressure exerted upon the membranes of ears by the diving bell has been brought forward as a cure for deafness. These and other practices and propositions may be good, or the reverse; but one thing is certain, either these or any other remedies, except the one or two simple ones mentioned above, should never be resorted to without proper medical sanction and management. When deafness is confirmed, and cure cannot be obtained, relief must be sought in the various artificial methods—ear cornets, and the like—for collecting and conveying to the ear as large a body of sound as possible. The remarkable power of gutta percha in the conveyance of sound, has afforded many facilities for adding comfort to the deaf, and improving their means of hearing, and many instruments for the purpose are manufactured by the Gutta Percha Company. It seems probable, however, from the investigations of Dr. Allen Thomson, that whilst attention is given to concentrate and convey sound in cases of deafness through the usual ear passages, its communication through the bones or hard parts of the head is too much overlooked. Dr. Thomson's investigations were founded upon the fact, " that sounds transmitted by contact of the sounding body directly to the head or other hard parts, appear louder when the external meatus—or ear passage—is closed." The same authority further remarks, " I am inclined to think that much more might be done than has yet been attempted, in a certain proportion of such cases, by assisting the hearing through the hard parts of the head, or by other means. Indeed, it seems surprising, considering how long it has been known that in some deaf persons the hearing of sounds is improved by promoting their transmission through the bones of the head, that an apparatus calculated to facilitate this mode of communication of the sonorous vibrations, has not been employed instead of the ear-trumpet, which can be of comparatively little service to them." Further, "In those hearing best through the hard parts of the head, it has long been known, that the air-passages, or accessory parts of the organ, principally are affected. In those partially deaf persons, on the other hand, who hear best by the meatus, it appears very probable that in general an affection of the internal ear, or loss of sensibility of the auditory nerve, is the cause of deafness. In these last, the ear-trumpet is of essential service, by concentrating all the weaker vibrations in the passage which is to carry them to the nerve, whose sensations are deadened. In the former the *meatus should be closed*, and every means ought to be used, as by sounding boards to collect, and solid elastic rods to conduct the vibrations to the hard parts of the head."*

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* In these cases, astringent gargles to the throat have been found useful.

With respect to the deaf and dumb, or " deaf-mutes, " as they are now called, whatever the cause, whether congenital deficiency, or complete deafness brought on by disease or accident before the power of speech had been thoroughly acquired. the education should be conducted in an establishment for the purpose. It cannot be done at home, but much may be done by the philanthropic and earnest endeavours which have devised, and are now daily devising new methods for imparting to these unfortunate individuals the blessings of knowledge. It has probably been an error in the education of the deaf-mutes hitherto, that they have been brought up in establishments by themselves, a plan it would seem less likely to fit them for mingling usefully with the world in general in after-life, than commingling them with children who have the power of speech. In Donaldson's Hospital for the education of poor children, recently opened in the neighbourhood of Edinburgh, an endeavour is now being made to correct this error, and a considerable number of deaf and dumb children are being brought up with the others, being of course taught in a different manner. It seems unquestionable, that this commingling must have a beneficial influence, not only on the unfortunates themselves, but also upon the others, teaching them to regard their deaf-mute playmates with familiar kindness, instead of the distant dislike or ridicule, which are too apt to be attached to, or openly displayed towards, the persons and manners of those who present any unusual defects, either of mind or body, by children more happily constituted.

Dr. Allen Thomson further remarks :— " Dumbness is known usually to proceed from deafness, either existing from birth, or arising early in life. The exceptions to this are very rare, and occur only from defective formation of the organs of voice and speech, or from disease of the brain. In the case of dumbness arising from total congenital deafness, sounds can never be associated with ideas, and consequently feelings, emotions, actions, and the names of objects or description of their qualities and states, must find a language in natural gesture, or in conventional written and manual signs. In the second case, that, viz., of total deafness coming on later in life, even if speech shall already have been acquired, it may be gradually lost, in consequence of the want of habit to associate sounds with speech. This occurs, however, only in early life, when the habit of speech has not been fully impressed on the memory. I am informed by Mr. Kinniburgh* that it rarely happens that dumbness is entailed by deafness so late as the tenth or eleventh year, and that the extent to which this may occur will depend very much on the circumstances in which the individual is placed. In those who become only partially deaf, but to such an extent as to incur the risk of becoming also mutes, it seems probable that much of the power of retaining voice and speech, or of regaining it, may depend on a very small difference in the amount of hearing; and I am inclined to think that much more might be done than has yet been attempted, in a certain proportion of such cases, by assisting the hearing through the hard parts of the head, or by other means."

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* An elegant gutta percha sounding board, somewhat similar in shape to, and capable of being used as a hand fire-screen, has been found very useful by those who are slightly deaf.

Refer to—*Ear—Glycerine, &c.*

DEATH.—The departure of the animating spirit from the material body, the separation of the living soul from the frame so "fearfully and wonderfully made" which is no longer fitted to be its habitation or medium of communication with earth and earthly things, is a subject which few can approach without awe and fear, none without interest, though it may be of a solemn kind, as the one event from which no child of Adam is exempt. The possibility or the probability of illness having a fatal termination, devolves a great reponsibility, and much anxiety upon the mind of a medical man, as regards the patient more particularly. There is the preparation of the mind for the great change to be considered; the settlement of worldly affairs on which may depend the future welfare of others to be thought of; but there is also the effect of the announcement, nay, of the slightest hint of danger upon some individuals, to be duly pondered, lest the mental shock may put the finishing stroke to what disease has begun, and extinguish the last faint chance of recovery. None but those who have had to bear it, know the weight of anxious thought that such considerations press upon a conscientious mind. It is a position for which no stated rule can be framed, and in which the judgment must be guided by the many contingencies and considerations which surround every case of the kind. It may be requisite on the first symptoms of danger occurring in some diseases, particularly in those likely to affect the powers of the mind, to make the announcement early, in others it may be delayed for some time after the physician has decided in his own mind that the case can have none but a fatal issue, till, indeed, the idea, without being actually imparted, has gradually dawned upon, or been gently awakened in the mind of the patient, and has by degrees ripened into conviction.

The question of encouraging hope of recovery, depends upon considerations similar to those which influence the announcement of necessary death; many of these rest upon religious grounds, which it would be out of place to touch upon here, but in a medical point of view, the tonic influence of this powerful emotion of the human heart must never be forgotten. With some, the hopes of a blissful future may be so strong that they overpower all wishes connected with this world; but these are, it *must* be said, exceptional cases; the love of life is strong, the majority hope to get well; this hope is as it were an anchor and cable, linking them with the life and activity of earth—destroy it, and they sink at once; the emotion is a sustaining tonic which no remedy can supply. It is for this reason the office of announcing the possibility or probability of death should not be devolved upon the medical attendant, except in certain cases. Coming from him, it takes too much the form of a final sentence; there are, it is true, various ways of breaking the subject, but softened down as it may be, it comes with a depressing force which it has not when friends or ministers breathe the possibility of such an occurrence. To the poor, and even to those who might know better, an important caution is required. Too frequently it happens, that whilst a medical man is examining his patient, or still within hearing, questions relative to that patient's state are put, whether "there is any danger?" whether the person will "get better?" and other interrogatories, which he can scarcely either answer or refuse to reply to, without conveying to the patient information he may not wish to communicate. Every medical man must have felt himself at times thus unfairly embarrassed.

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* The late Superintendent of the Deaf and Dumb Asylum in Edinburgh.

The symptoms of approaching death must of course be liable to great variation, depending upon the cause of the fatal event, and the peculiar constitution and temperament of the patient.

Sudden death is usually considered to be that which occurs without *immediate* previous warning, for there are few cases in which some indications have not been developed of the disorder of the organ, or structure, which at last give way and snaps the thread, unless, of course, life has been quickly destroyed by some external accidental agency.

Dr. Alison says, "All causes of sudden or violent death operate either by directly depressing or suspending the vital actions of the organs of circulation, or by obstructing the arterialization of the blood, and thence arresting the circulation at the lungs." The action of the organs of circulation, that is, of the heart and blood-vessels, may be fatally depressed by a sudden shock, communicated to the brain and nervous system, and death quickly produced, as in the case of severe blows, extensive burns, and the like; or the depression may be caused by abstraction of the blood itself by hemorrhage; in such cases, death is the result of faintness. The arterialization of the blood, may be fatally interfered with, and speedy death ensue, from injuries to the nervous system, which interfere with the process of respiration, or by causes which impede directly the access of air to the lungs, causing asphyxia, or suffocation, death being the result of the influence of the unchanged, or it might be called poisonous, blood upon the brain. Nearly all cases of death are, indeed, referable to the above direct causes; but many cases of *sudden* death are most obviously so. Neither is death always owing to one or other of these causes distinctly acting by itself, for they may be variously commingled. The premonitions of approaching dissolution are often strongly marked. Independent of these authenticated cases, in which the mind has been powerfully impressed with the conviction of impending death, independent of, or not directly connected with physical causes, there are others which come under the notice of the physician; such are strange and sudden impulses of the mind, longing after familiar friends or scenes suddenly acquiring unusual force, to be indulged in before the eyes are sealed to the things of this world. As the closing scene draws near, most appear conscious of the coming change; but some hope on to the last, and cherish the idea of a return to earthly joys and sorrows and business, till the latest breath is drawn.

When death is slow in its approaches, the physical signs, though varying, preserve a measure of uniformity, which in most cases too plainly points out the coming event. They are thus well described in a recently published work.* "When the evidences of dissolution, however, begin to manifest themselves, a general failure of the temperature, with a cold dew on the skin, may generally be considered as indicative that the scene is about to close. In many cases it is easy to recognize the fatal turn which diseases take by the alteration which the symptoms undergo. Where internal inflammations are about to issue in death, there is mostly a striking change in the expression of the face, and sometimes a curious shrinking of the body."

"The nose and lips are very characteristic in the dying; the lips become pale, the nostrils dilated and dark-looking and the hairs about the lips seem more than usually apparent; the teeth look like pieces of ordinary bone, and the eyes seem to shadow through the eyelids, or are partially turned under the lids; the nails look dark, and the ends of the fingers sodden. Finally, convulsive twitchings often shew themselves in the face, with singular elevations of the eyebrows, and staring of the eyes. A gaping attempt to breathe terminates the struggle. When coma is present a mucous rattle is of fatal import; and *è contrario*, when the lungs are affected, the supervention of coma is equally to be dreaded.

"When fluids taken by the patient flow back from his mouth, or fall heavily down his throat, as if poured into an ordinary tube, death is soon to be expected.

"In young children a curious playing with the bed-clothes often attends fatal affections of the brain. I remember a little child, who had her handkerchief in her hand, which she spread out repeatedly with apparent care and in a fantastic manner that would have been amusing, but for its fatal import. The picking of bed-clothes, and catching of the hands as if at imaginary objects, are well known as terrible indications.

"Chomel remarks, as of serious presage, the automatic manner in which a patient will unceasingly draw his hand to his side, in spite of the efforts of the physician to ascertain his pulse.

"The signs of death are not, however, always very marked; for when death arises in advanced and feeble age, the vital powers are so easily depressed, and the heart's action brought to a stand in so imperceptible a manner, that it is common to speak of it as a quiet sleep."

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* "Medical Aspects of Death," by J. Bower Harrison.

These signs of approaching dissolution are terrible and distressing to witness in those we have loved, and though, undoubtedly, existence is sometimes terminated in a paroxysmal agony of pain, there is reason to believe that in slowly approaching death, such as has been described, the sensations are much blunted in consequence of the insufficient change of the blood.

The symptoms which indicate that death has actually taken place are, in the majority of instances, perhaps too unequivocal to be mistaken, but sometimes it is not so, and there is a difficulty in determining whether life actually has departed, even hours after any appreciable sign of conscious existence has been given. The signs of death may be divided into those which precede putrefaction, and the occurrence of that unequivocal evidence itself. Some, indeed, have contended that it alone should be received as evidence of death; but there are obviously many circumstances under which it is impossible to await its occurrence, nor is it necessary to do so.

The absence of apparent respiration is a generally received symptom of death, and a looking-glass, or light feather or down, placed before the lips are used as tests. Mr. Harrison, whose work has been already quoted, says both are fallacious, and instances the circumstance represented by Shakespeare, of Prince Henry having been deceived when he carried off the crown from his father's pillow.

"By his gates of breath
There lies a downy feather which stirs not;
Did he suspire, that light and weightless down
Perchance must move."

The light down may be stirred by any passing current, or the mirror may be dimmed by some exhalation from the body, and either prove deceptive.

Mr. Harrison further observes, "If the observance of the respiration be taken as the indication of life, and its absence as a proof of death, the exposure of the naked chest and abdomen would enable the spectator to form a much more accurate appreciation of it, especially if it be made carefully and for a sufficient length of time."

Stiffening or rigidity is another generally received sign of death, but it may not occur at all, or very transiently. A false rigidity may be present immediately after dissolution, in consequence of death from some nervous affection. It was formerly thought that persons killed by lightning did not become rigid, but the examinations of recent cases has proved this to be erroneous. "The rigidity of death appears to come on with various degrees of rapidity, and its duration is also various. It usually commences in about seven hours, but it may be deferred considerably longer, even from twenty to thirty hours. When the body is greatly weakened by disease, the rigidity comes on much sooner, but is much more evanescent. It has been known to arise in fifteen or twenty minutes. Its duration varies from twenty-four to thirty-six hours, but may continue many days. In some nervous diseases affecting the living body, rigidity occurs, but scarcely in a way to deceive. When the limbs have become rigid, and the rigidity has been succeeded by flexibility, the fact of death having occurred can never be doubted." Professor Louis, from observations made upon more than five hundred subjects after death, found that the articulations began to become stiff even before the loss of animal heat. Foderé, another authority, has verified the justness of this observation several times in hospitals, and concludes that the flexibility of the limbs is one of the principal signs by which we may judge that a person is not dead, although there is no other sign of life."

The cooling of the body after death depends much upon contingencies; the covering, the surrounding temperature, the presence of much fat, &c., all exert a modifying effect. In cases where much blood has been lost the body is observed to become cold rapidly.

The occurrence of discolourations on various parts of the body, particularly the most dependent portions, are frequent sequents to death, and the darkening of that portion of the white of the eye which is exposed to light, has also been pointed out as a symptom to be depended upon, and along with it, dilatation of the pupil. The above symptoms, singly, might not perhaps convince of the occurrence of death, but more or less combined, they cannot be doubted. Putrefaction commencing, of course does away with all doubt.

It may seem to some that it is unnecessary to dwell so minutely upon the evidences of the last great change, but it is a subject on which many entertain great anxiety, and from the fact that a considerable number of ascertained cases have occurred, in which mistakes have been made with respect to death, it is desirable that accurate information upon the subject should be generally diffused. It ought to be remembered that the corpse of a person who has died of a contagious disorder, particularly the eruptive fevers, *may* propagate the disease. The influence of season in causing death is well marked. "According to Quetelet's tables of mortality in Belgium, the greatest number of deaths among individuals above twenty-five takes place in February, and the smallest number in July. Other researches as regards Berlin, show that the greatest number of children die in summer and the fewest in winter, whilst with adults the case is exactly reversed. It has also been observed that more deaths on the average occur between six A.M., and noon, than at any corresponding period in the twenty-four hours.

Lastly, one word as to the treatment of the dying: let quiet, attention to every sign, the moistening of the lips, the gently shifted position, be the attentions; but who can tell how painful the disturbance of the forced stimulant or medicine, the noisy lamentation, or the pulling about or pulling away of pillows which nurses are apt to practice, may be to the last moments.

In persons found dead, or apparently so, the first thing is of course to ascertain the real state of the case. If death is doubtful, judging by the signs stated in the early part of this article, the first object must be to ascertain, if possible, the cause of the condition which so nearly approaches to it; this must be the first step, but it must be taken with all possible speed, in order that proper measures for resuscitation may be adopted. The causes may either be natural or violent; of the former, apoplexy, sudden fainting, or suffocation from internal affections, may be in operation; of the latter, suffocation from unnatural causes, poison, wounds, burns, cold, starvation, lightning, include the most probable influences. Some of these, such as burns, wounds, the action of lightning, cold, and many of the usual modes of suffocation, such as hanging, drowning, &c., are too evident, either in themselves or from concomitant circumstances, to be overlooked; but others, particularly those cases of apparent death resulting from natural causes, from some forms of suffocation, and from poisons, are almost beyond the power of the unprofessional to investigate. For the mode of distinguishing, and for the subsequent treatment, the reader is referred to the articles devoted to these subjects. It is repeated, when *a person is found apparently dead, do not let the fact be assumed without investigation;* the spark of life may yet linger in its earthly tenement, may yet be not past recall, beyond which, the loss of even a short time, or the total abandonment of care may quickly place it. If there is the faintest hope that life is not quite gone, whilst the causes of the mishap are investigated, means, such as are recommended under the peculiar circumstances, should be at once adopted, and vigorously—no half measures will turn the scale between life and death. These things are peculiarly important, for often it can only be a fortunate chance that places a medical man on the spot where cases such as the above have occurred. Of course, where it is possible, medical assistance ought to be as quickly procured as may be, but time may or must necessarily elapse, and while it slips by, life slips away, which might be preserved by the knowledge possessed by some intelligent bystander, which might lead him to think that there was still hope —often too readily given up by the crowd —and lead him to direct the adoption of rational and really efficient measures, instead of the useless, or worse than useless, treatment followed, where there is no information to guide, or head to direct.

When persons are found who are undoubtedly dead, there yet remains something to be done, for the cause may be natural, or unnatural, and in the latter case the ends of justice may either be forwarded or retarded by those who first discover the body. The exact position should be noted. The stiffening or not of the limbs. The presence or absence of warmth about the chest or abdomen particularly. The state of the clothes. Whether there are signs of vomited or other matters discharged from the body. Wounds noticed, and the state of the blood upon them, whether fresh, coagulated but yet soft, or hardened. And, indeed, whatever the circumstances connected with the finding of the body can suggest to the intelligent mind, should be *written down*. On the arrival of the judicial and medical authorities, there are other matters of course to be investigated, which only they can undertake, but as most of those above-mentioned are evanescent, the persons first on the spot can best, or only, testify to them, and facts which may appear trivial to note at the moment, may, in criminal cases, be the turning point on which conviction hinges.

Refer to—*Apoplexy—To causes of unexpected death generally*.

DEBILITY, or **Weakness**,—is a falling off from the usual power of the individual to perform those exertions, whether of duty or pleasure, in which he has habitually engaged, and which, judging from the constitution, mode of life, &c., he might naturally be expected to perform.

Illness and debility may also be said to be synonymous, for it is difficult to imagine the former unaccompanied or not followed by weakness, except in the few exceptional instances, in which apparent debility, caused by the presence of morbid matter in the blood, is relieved by the disorder which carries off the cause of the depression. Such is seen to be the case in mild attacks of bilious diarrhœa, which do not go far enough to affect the general strength, and which are immediately followed by relief to the feelings of languor and weakness which preceded them; indeed, unwonted discharges of any kind, whether in the urine, or from the skin, or even of blood in small quantity, if they do not go too far, are often followed by feelings of strength rather than of debility. In these cases, however, the debility was apparent, not real; that of oppression, rather than of depression. To these and similar sources, then, may be referred all those causes of apparent debility, or in other words, of languor or torpor, which arise from impurity of the blood, consequent upon the retention of noxious matters in that fluid, which are from some cause unremoved as they ought to be, by the agency either of lungs, liver, kidneys, bowels, or skin, or which have been absorbed into the vital fluid from without.*

It may be said that these are not cases of debility at all, and perhaps by medical men, understanding and strictly investigating their causes, they would not be considered so, nevertheless they give rise to an appearance of weakness, of which the unprofessional only can judge, and under these circumstances, it is requisite plainly to point out the distinction, which is of no light importance in the modes of treatment and management usually resorted to. A person from some cause or other gets his blood loaded with morbid matter; either he has indulged in too full living, animal diet, and alcoholic drinks especially, or he has neglected to take exercise, or to keep the skin in active operation; or the lungs, liver, kidneys, or bowels are oppressed or inactive; he has, in fact, more or less poisonous matter circulating throughout his frame,—he feels low, both in body and mind, languid and listless, thinks himself weak, and takes, perhaps, a little extra animal food, a little more wine or malt liquor, to correct the—*supposed*—debility. The consequence must be a fit of illness of some kind, "a bilious attack;" a fit of gout or gravel, of piles or of some cutaneous eruption, which the system makes a safety-valve; or it may be that apoplexy or some other congestive disease is induced. It is surely superfluous to say more respecting the serious tendency of such an error as that which mistakes false debility for real, and induces the individual, instead of seeking strength by the reduction and alteration of his diet, and by the regulation of the excreting functions of the body, either by general or medicinal means, to rush to the other extreme, and, in the endeavour to get rid of the disorder, to add to the causes of it. Of course real debility may co-exist with apparent, the result of impure blood; such happens in acute or exhausting affections of the liver, lungs, &c., &c., and the case assumes a complicated and highly dangerous character.

As apparent debility is referred to impurity of blood, so the cause of real debility must be looked for, in many cases, in its deterioration or deficiency. The vital fluid, which is the medium for supporting our animal temperature, and for supplying plastic elements to the ever-wearing textures of the body, may be deficient in all or any of the elements required for these purposes, or it may itself have been drained away by hæmorrhage. The first office of the blood, the maintenance of animal heat, is so essential, that it seems arranged by the Author and Supporter of our life, that to carry on this, the soft constituents of the body may be sacrificed almost to the extreme limit, but this very circumstance must be a cause of debility during illness, when to obtain fuel as it were, muscular substance is consumed away, whilst muscular motion is unexercised. Again, whatever plastic elements the blood may be deficient in, the organs to which those elements should be supplied become debilitated. This is most strikingly exemplified in the case of the bones in childhood, where food is deficient, which become soft—rickety—for want of the due supply of earthy matter; still more generally is it exemplified, in those cases so often quoted, of animals fed, or rather starved, upon certain kinds of food, such as arrow-root, white sugar, bread made of fine flour, &c., &c., which, however wholesome as articles of diet in themselves, do not contain plastic elements for the building up or sustaining the bodily tissues in strength and healthy active operation; to deficiency, therefore, of the blood, as regards those elements required in the unceasing operations of the living frame, must we look for the most generally operating and palpable cause of debility. But this cause, is, itself, only an effect of other causes. If the blood is to nourish well, it must be nourished well itself; the supplies it is ever yielding to the system must be rendered to it from without; the food must not only be in quantity and quality sufficient to preserve the balance of nutrient materials in the blood, but it must be properly digested, properly fitted for its commixture with the vital fluid: if either food or digestion be deficient, debility, more or less, must be the result.

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* Those who have hereditary or acquired tendency to Gout often suffer from feelings of langour and oppression consequent upon the formation and retention of gouty matters in the blood.

Many causes, of course, may operate to diminish, or totally prevent, the supplies of food taken; febrile disease of any kind, accident, disorders of the digestive organs and numberless others do this, and so surely as they do—except, to be sure, where a little wholesome starvation is required—so surely does debility follow; for although food may neither be taken or digested, the bodily requirements, heat, movement, and even the power of thought, must be kept going, and if the materials are not furnished from without, they will be taken from within; the body preys upon itself as it were, lives upon its capital, and it is needless to say that debility must result. The body, in such a case, might well be compared to a steamer at sea, run short of coal, the inner wood-work of which, even at the risk of weakening the hull, is necessarily broken up to supply the engine, and to enable the vessel to reach the harbour of safety; so the body, suffering under acute disease, and unsupplied with food, must make use of that which constitutes its internal structure, although it may be fearfully weakened, or perhaps destroyed, by the process. The supply of proper nutriment, and its presence in the blood, are so intimately connected, that they may be regarded as one and the great source of real strength. Without good blood, neither muscle, nerve, or any other constituent of the body, can be in its best state of healthy efficiency. Of course, deficiency of the circulating fluid caused either by loss from hæmorrhage, or any other drain which abstracts all or part of its constituents, must act as a cause of debility equally with those previously mentioned.

Again, the blood may be adequate to fulfil all that is required of it, but some organ fails, it seems, to lose its power of appropriating to itself elements fitted for its nutrition, although brought to it in the circulation, even in sufficient proportion to maintain moderate healthy action, or the individual organ may be over-tasked and debilitated, its tissues used up more rapidly than they can be repaired, or its nervous power exhausted. Here we have another source of strength or weakness, real or apparent, the nervous power, the agent through which movement is communicated. The action of the nervous system, as regards strength or debility, must be looked at in connection with its healthy or its morbid operation, in other words its strength consists in the amount of exertion it is capable of stimulating and maintaining, either generally or partially, without subsequent exhaustion. This limitation is requisite, for were it not drawn, it would make the excitement of the nervous system the measure of strength, it would make the transitory exertions of enormous power exhibited at times by patients in the last stages of real debility from fever, or the almost resistless struggles of the delicate hysterical girl, tests of real strength, instead of paroxysms of morbid excitement, which terminate in the most exhausting, or it may be, fatal debility and collapse.

In the healthy constitution, and sufficient nutriment of the organic constitution of the body, and of the nervous system, lies the true element of strength, or the real seat of weakness. To use a simile, the machine must be strong in all its parts, and its moving power adequate to its requirements, to constitute real well-balanced strength.

When the central organ of the nervous system, the brain itself, becomes debilitated; the condition may be manifested by affections of the body, partial or general, or by disorders of the mind. The brain may be debilitated or exhausted by the excessive stimulation of alcohol, opium, and other agents which act upon it peculiarly, also by sensual excesses, over-nursing and the like; but perhaps the most frequent source of weakened brain in this country, is undue exertion of it as the agent of the mind; it is tasked till it gives way, *is used* up. This is not a figurative expression, it is the actual truth, that the substance of the brain is actually consumed by the process of intense thought, the amount of consumption, probably, being in proportion to the exertion the mind is put to. In persons of irritable and nervous temperament it is not uncommon to find deposits of phosphatic salts in the urine after the mind has been strained, and we can only look to the nervous system and brain as the most probable source of the additional excretion of phosphorus. The subject is undoubtedly an obscure one at present, but it is deserving of notice, from bringing directly and sensibly to the mind, and in a physical point of view, the possible and probable manner in which this wonderful agent of man's intellect may be, and is, exhausted.

Having then seen, that debility may

either be apparent or real, and that in the latter case it may depend upon deficient nutriment or deficient healthy supply of nervous power, it remains to consider the causes which most generally tend to bring about these conditions.

Debility has been divided into original and acquired. The former is witnessed in the children of parents whose constitutions have been weakened by any cause, such as dissipation, advanced life, &c., &c., and also in the children of scrofulous families. The latter or acquired debility, may, of course, be caused by whatever lowers the standard of health. As already mentioned, insufficient nourishment is one great source of debility; likewise, the absence of the usual stimuli of solar heat and light, deficiency of fresh air and exercise, and of stimulation to the mind by a proper amount of healthy active exertion. Again, there is the debility produced by the direct action of injurious agents, a continued damp climate, either warm or cold, poisons gradually absorbed in necessary employment, or accidentally but continually taken into the system, and such like; and also by depressing passions of the mind, such as anxiety, fear, &c., &c.

Lastly, there is debility, the result of direct abstracting and exhausting influences. Any habitual loss of blood, or drain or discharge of any kind, over-nursing, or sexual excesses. One especial cause of debility requires notice, it is that occasioned in young children or people, who sleep with the aged; for the fact is an undoubted one, that the practice has an extremely debilitating effect upon the former. It is one which should never be followed or permitted. The withdrawal of accustomed excitements often occasions debility of an alarming and even fatal character. The debilitated drunkard or the opium eater cannot without danger be deprived of his usual stimulant, and even the man who has lived in the most perfect moderation, cannot always, without danger of inducing great debility, leave off an accustomed stimulus. It is not said that in many instances this may not be done with impunity, or even benefit, but there are cases in which it is hazardous. The effect is not manifested, perhaps, for a considerable time, it may be weeks or months, but it *is* manifested some time, and the author has met with some cases of extreme depression and general weakness, traceable to no other cause than an unadvised and rigid adherence to the strict rule of teetotalism.* It matters not what the long-accustomed stimulant may have been, that of alcohol, of fresh air, of mental exertion, it cannot be withdrawn, without danger of inducing weakness.

In the treatment of debility, whether simple, or complicated with disease, it must be obvious to all that it must be adopted with due reference to the cause. This must, if in continuance, be removed or rectified as quickly as it may be, if the mischief, as occurs in original debility, or in that produced by causes which have ceased to operate, cannot be prevented, of course nothing remains but to build up or restore strength by nourishment, tonic medicines, change of air and scene, especially to the sea-side when that is practicable. In every case, however, of marked debility, the medical man should be consulted; he only is likely to detect with certainty the cause or causes, and to direct the adoption of appropriate remedies.

It may seem that too much space has been devoted to this subject, but it is one which is so erroneously regarded by the public in general, particularly by the lower classes, that it is a matter of importance for juster views to be imparted, that there should be a more enlightened understanding of the subject, of the principles by which debility is to be judged and treated. The case of apparent debility was disposed of in the first portion of this article. In the weakness which accompanies fever and acute inflammatory attacks, nothing is at times more difficult than to convince people not only of the utter uselessness, but of the injuriousness, of administering any food but that of the mildest and most unstimulating character, such as the appetite alone desires, if it desires it at all; and notwithstanding nature herself points instinctively to the proper course, they will persist in the idea that if the person "would eat he would be better." Undoubtedly if he would and could eat, and *digest* the food taken, he would be better, for he must be better beforehand to do so; but the popular idea is, that if food be but got into the stomach it must give strength, and foolish friends foster the same impression in the mind of the invalid, till he forces himself to take food; and many a promising case is thrown back in this way, although the medical attendant is never informed of and can only guess at the cause. Fortunately, nature often resents the error, and vomiting relieves the stomach of its injurious load; if not, fever, headache, &c., and relapse are too frequent consequences.

It is repeated, in the treatment of debility, whatever may be the cause, if still in operation, *that must* be rectified, but the weakness itself is only to be repaired by a sufficiently ample supply and circulation of healthy blood. The latter must be procured by every means which tend to enrich and purify the vital fluid: good food well digested, air, exercise, and the use of all accessories to health, and assisted when suitable by such regular and regulated exercise of the debilitated parts themselves, as will increase the circulation of blood through them, without exhausting either their constituent tissues or nervous power; but it is useless, and worse than useless, to load a stomach which cannot digest it, with food and drink, in the vain hope of giving strength, as people too often do, or wish to do, in cases of febrile or other disease. To resume the simile of the steamer, although the seasoned wood-work within may be broken up to feed the engine, and to carry the vessel safely into port, it would be no slight hindrance, and no small aggravation of her danger, were she to be loaded with water-logged or green wood, which would not burn when it was wanted; so it is with the body in fever: the already prepared and digested components stored up in its tissues, though not perhaps accumulated for the special purpose, will yet answer well to keeps *its* works in movement; but crude food is like the green wet wood, useless for good, and fitted only to overload and retard. When increase of nourishment is called for in cases of debility, care must always be taken to adapt it to the condition of the digestive organs; these are generally weakened, and while the food given contains much nutriment, it should be as easily soluble in the stomach as possible. For information on this head, however, the reader is referred to the articles on Digestion, Food, &c.

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* Every medical man meets with cases of teetotallers, who have been so both from choice and from principle, and who have been compelled to resume the use of stimulants from health causes alone.

Refer to—*Animal Heat—Bilious Cholera—Blood—Fever—Nerves, &c.*

DECAY, or the gradual giving way of the physical powers in old age, may almost be considered as a part of the preceding article. After the sixtieth year in men, and somewhat earlier in women, as a general rule, the period of old age or of decay commences, the descent has begun, imperceptibly perhaps at first, but it is progressive. There may be no positive disease, but the circulatory powers fail, the arteries lose their elasticity and tone, and in this, perhaps, lies one great cause of the decay of the body generally, the deficient circulation of blood; the brain, the muscles, the whole body becomes smaller, shrinks, and if there is no disease, the powers of material life are gradually extinguished, a few degrees fall in the thermometer may be all that is required to put out the flickering flame. For the management of this stage of life the reader is referred to the article on *Old Age*.

DECIDUA, or DECIDUOUS MEMBRANES, are those which line the uterus during pregnancy, and which are cast off shortly after the birth of the child.

DECLINE.—See *Consumption.*

DECOCTION, literally, means a preparation which has been boiled; but in medicine, by the term is understood that which has been boiled for a certain length of time for the purpose of extracting matters from crude materials, which cannot otherwise be obtained. Moreover, when improperly employed as a process, it drives off volatile matters which ought to be retained. The most useful decoctions used in medicine are—

Compound decoction of aloes.
Decoction of cinchona bark.
Decoction of oak bark.
Decoction of sarsaparilla.
Decoction of senega root.
Decoction of elm bark.
Decoction of poppy.

And the preparations, gruel, barley-water &c. &c., also classed with the decoctions.

There are many other medicinal decoctions, but they either do not require mention in this work, or the preparation, as in the case of dandelion, broom, &c., is better made as infusion. For information respecting those mentioned, the reader is referred to the respective articles.*

DECOMPOSITION is the separation of the component principles or elements of compound bodies from each other, the process being either naturally or artificially excited. See *Antiseptics—Fermentation—Putrefaction.*

DEFORMITY means "any and every deviation from the recognized symmetrical proportions of the human frame; but the word is more definitively applied to those irregularities of form which consist in a partial deviation from the natural position of the body, unaccompanied by malformation of the general original structure. It is probable that to a conviction on the part of the profession that club-feet are actual malformations, we are to ascribe the unaccountable fact of this species of distortion having almost to the present day been left without rational or truly scientific attempts made to remedy it." Deformities are either congenital—that is, dating from birth—or acquired. With respect to the causes of congenital deformities, "some are, at present inclined to attribute them to a mental impression, generally a sudden one, received by the mother during pregnancy but it oftentimes happens that the mother can assign no cause; in other cases the deformity appears hereditary." "In non-congenital cases, teething, worms, and irritation of the spinal chord, are frequent causes. Certain occupations, such as much standing, or carrying heavy loads; position also may be regarded as a cause, especially in lateral curvature of the spine; but occasionally we are at a loss to discover any cause, the deformity coming on insensibly, while the patient is apparently in perfect health." These cases, if attended to at their commencement, might certainly be relieved and prevented, but it often unfortunately happens that there is little interference with the general health; the deformity, as in the foot for instance, coming on insidiously, no attention is paid to the circumstance; a weakness, as it is termed, of the ankle is felt, and the foot deviates occasionally from its natural position, and thus, if the case be neglected, the foundation is laid for a permanent deformity, or at all events a permanent weakness of one or both limbs, which may involve their being disabled for life.*

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* The new British Pharmacopœia requires no alteration in the enumeration of the above.

The most simple form of distortion is the horse-foot, which consists of complete elevation of the heel, so that the patient in walking rests entirely on the toes—fig. A.

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Mr. Tamplin, the experienced surgeon to the Royal Orthopædic Hospital, from whose work the substance of this article is taken, says that he has never met with this kind of deformity congenital, but as a consequence of disorder of the system, and more especially of nervous irritation, such as that caused by teething, worms, &c. It may also be occasioned by wounds or local irritations, such as ulcers, affecting the calf of the leg, or "it may arise spontaneously, the patient experiencing no pain or inconvenience beyond the inability to bend the foot or ankle-joint in the act of walking, and retaining at the same time power over all the muscles." When weakness of the ligaments of the ankle-joint is conjoined with the above deformity, in the course of time the foot is liable to become so much distorted that the person at length comes to rest on its outer edge in walking.

Another deformity of the foot, that in which it is simply bent inwards, may date from birth and frequently does, but it may also be induced by various causes of irritation affecting the nervous system. The flat or splay foot, although it may be a congenital formation, is also liable to be caused, where previous debility exists, by the carrying of heavy loads, and other things which necessitate much pressure upon the arch of the foot. "The first thing which attracts the attention of the patient to this deformity in its incipient state, is a sense of weakness, more especially on the outer side of the ankle-joint;" they then observe the flat appearance of the sole of the foot, and the tendency of the inner ankle to approach the ground in walking; as the deformity increases, the pain in the joint, and the sense of weakness increase to such an extent, that the patient becomes totally unable to follow his ordinary occupation.

It would be superfluous waste of time and space here, to enter further into a consideration of the various deviations from the natural formation to which the limbs are liable, suffice it, that whether the infant is born with these deformities, or whether it becomes the subject of them as life advances, they *cannot too soon* be submitted to medical management; modern surgery has demonstrated that they are remediable so far, that all striking deformity is removed, and that an otherwise almost useless member is adapted to perform its natural offices, if not with grace, at least with comfort. The great improvement in the treatment of these defects, consists in division of the tendons which occasion the distortion. This practice Mr. Tamplin strongly recommends as the preferable one, whether "for infants at the earliest age, or late in life," for the following reasons: "first, from the facility with which it is accomplished; secondly, because it incurs comparatively no risk, and scarcely any inconvenience; thirdly, because you at once overcome the principal resistance, and render the after-treatment painless to the patient, and comparatively easy to the attendant, independently of which, the child is not subjected to such constant confinement of the limb as is absolutely necessary when you do not have recourse to an operation; you can allow exercise to be taken for a certain time during the day, and that, even in infants, must have a most beneficial effect."

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* Refer to article—"Ankle."

The above remarks of perhaps the most experienced surgeon in this kingdom in the treatment of distortions, have been brought forward in the hope that parents, and others having the care of children, may not, knowing the general causes of non-congenital deformity, neglect the first warning symptoms of its insidious approach, and in the case of children born with distortions, may place them at the earliest possible period under efficient surgical management, and not be deterred by the fear of an operation, which, in proper hands, is perfectly safe, comparatively painless, and unattended with loss of blood.

Deformity occurs from the softened condition of the bones, in the disease of childhood named rickets, and also from softening of the bones in adults, but these cases are the effect of distinct and well-marked diseases. See *Rickets*, *Softening of Bones*, *&c.*

Deformities and contractions of the shoulder and elbow-joint are very generally the result of injury or disease. The wrist joint and the joints of the fingers are also liable to distortion from the same cause; in some cases the contraction is seated in the skin, in others the joints are deformed and perhaps displaced by rheumatic disease. Deformity of the fingers may also be congenital. Such cases should be put at once under the management of the surgeon.*

Refer to—*Neck*—*Rickets* —*Spine*, *&c.*

DELIRIUM—is a temporary disordered condition of the mental faculties, occurring during illness, either of a febrile or of an exhausting character. It is generally a symptom of serious import, but not always; many children, and some adults, become partially delirious, or "wandering," from very slight causes, even a simple feverish cold being sufficient to produce the effect; in such cases, of course, judgment must be formed with some reservation. In fever, and febrile diseases generally, delirium may be no more than slight confusion of ideas on waking from sleep, or it may amount to furious and dangerous excitement, or merge in low muttering, or terminate in confirmed coma or stupor.

Delirium may be the effect of disordered or inflammatory action affecting the brain itself, or it may be sympathetic with active disease in other parts of the body, such as the heart; it may be caused by long-continued and exhausting pain, and by a state of inanition of the nervous system. In the treatment and alleviation of the symptom, it is of the highest importance that it should be ascertained to which of the above conditions it is owing, and from this circumstance, any attempts to remedy it by the unprofessional—who must be liable to error on this head—cannot but be attended with some risk. It may, however, at times, be requisite even to run this risk, for the chance of doing good, and then the following directions may serve as some guide.

When delirium occurs in a person of full habit of body, accompanied with inflammatory fever, with quick strong pulse, bloodshot eye, and flushed countenance, abstraction of blood in the first instance, either from the arm, by leeches, or by cupping, cannot fail to be of service; along with bleeding, free purging with calomel, combined with compound colocynth pill, with jalap or scammony, or followed by senna and Epsom salts, should be resorted to; the head should be shaved and kept cool with the coldest applications to be procured, the feet should be kept warm, the room darkened, and every source of excitement removed. If there is violent effort, and unruly conduct, the limbs must be restrained firmly, but gently, whenever attempts to exercise them in an improper manner are made. In this case a broad belt passed loosely over the bed, and fastened at each side, so as to confine only when any attempt at rising is made, is of considerable assistance. In this form of delirium, it is of the most essential import that watch should be kept without one moment's interval, night and day; there must be no risk run of sleepy attendants, and there must be sufficient physical power to restrain the almost superhuman, though transient, efforts made by delirious patients. Some of the most painfully distressing accidents of illness have occurred in consequence of neglect of these precautions; one unguarded moment, one five minutes' sleep, have neutralized days and nights of anxious care and watching; in the brief interval of remitted surveillance, the patient has escaped from bed, from room, even from house, by the usual modes of egress, or has dashed madly through the first window in his way, or laid hold of the first means of self-destruction. The force of the excitement, it is true, is generally soon over, but it lasts long enough for serious or fatal mischief: no apparent quiet for some time is to be trusted; unceasing care must be exercised till intelligence returns.

The low form of delirium is differently characterized; the mental disturbance is equally complete, but wants the violence of the inflammatory form; generally, the person lies in a dreamy state of incoherent thought; but even in this form, occasional fits of excitement, and attempts to get out of bed and the like, occur, and must be guarded against. It is this form of delirium which generally becomes developed in the progress of typhus and typhoid fever. The head is hot, but it is not the fierce heat of the inflammatory attack, the vessels do not throb in the same manner, and the eyes are not blood-shot, the pulse is feebler and more easily extinguished, the tongue and the hands are tremulous, the former when protruded, and the latter are perhaps affected with convulsive startings. When these symptoms are at all marked, there can be but little doubt as to the nature of the case. To take away blood now, is to kill; the head should be shaved and kept cool, the bowels moderately but sufficiently opened, and the warmth of the feet attended to, perfect quiet being observed around the patient. In such a condition, particularly *if there is tendency to nervous or convulsive twitching of the fingers or of the tendons at the wrist*, opium may certainly be given with benefit—the best form is Battley's sedative solution; the dose for an adult fifteen drops in the evening, five drops additional being given every two hours till sleep is procured, or till thirty drops have been administered in all, or the muriate of morphia may be given, in half or quarter grain doses, in the same manner, or in the absence of these, any other preparation of opium in corresponding quantity. Sleep is the only remedy for the irritation and irritable exhaustion of the nervous system which is attended with this form of delirium, and opium alone is to be trusted to for procuring the soft restorer. Strong meat soups, and wine, may also be requisite, but the consideration of these matters rather belongs to the subject of fever.

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* Deformity is very often the result of fracture which has either been improperly set or is incapable of being thoroughly remedied. The hideous deformities produced by the contractions of the skin, following the healing of large burned surfaces, are matter of too common observation to all.

A form of delirium, accompanied with much nervous irritation, is apt to be developed in the course of scarlet fever, towards the third day of the eruption, or when it is beginning to fade. In the progress of rheumatic fever, this same delirium of exhaustion may occur, and, like the others already mentioned, requires the treatment by opium.

Sympathetic delirium takes either of the above forms, according to circumstances, but it is more generally the low type, especially when consecutive to severe accident or operation, or during protracted child-birth; generally, therefore, opiates and supporting measures, meat broth, wine, and bark, &c., are required rather than the reverse.

It is of consequence that delirium should not be mistaken for insanity, as it might be and has been, but scarcely ought to be by a medical man. The concomitant circumstances of disease, &c., &c., will generally guide. In true delirium the presence of fever more or less, the acute disorder of the functions generally, such as digestion, &c., and the disorder of the *whole* mind, generally sufficiently indicate its distinctness from insanity, in which the faculties of the mind are only perhaps partly affected or perverted, and disconnected. The insane, moreover, do not exhibit the appearance of illness which accompanies true delirium, and the functions are not usually impaired in the same way. Still the two affections may nearly approach one another, and in the form of delirium which follows child-birth, or the delirium tremens of the drunkard, it may often be difficult to make the definition as to which the case belongs. Still more difficult of discrimination are some cases of hysterical delirium, which, when long continued, might well be mistaken for insanity, unless submitted to medical judgment; indeed, in every case of delirium, medical assistance should be procured as early as possible. No unprofessional person in his senses would think of treating a case of delirium, when professional assistance is at hand. In its absence, the foregoing article should be useful.

DELIRIUM TREMENS consists of a peculiar exhausted condition of the nervous system, which is accompanied with more or less mental disorder of a peculiar kind. This disease is generally the result of excessive continued intoxication with alcoholic liquors, or of their withdrawal when they have been habitually consumed in considerable quantity; it may also, however, be produced by the continued use of opium, and has been known to arise from other causes of cerebral exhaustion.* The first symptom of delirium tremens is a state of restless nervous irritation, if the exciting cause be continued, sleeplessness follows, there is no rest, and if there is any approach to sleep, it is haunted by dreams and figures, which seem to excite the greatest terror; the mind is more collected than in most other forms of delirium, but seems always to be more or less haunted with suspicions of those around. The entire frame is in a state of tremor, the closed eyelids and the protruded tongue are tremulous; the hand which attempts to perform any action requiring exactness, cannot execute it for shaking; the patient is exhausted, and still sleep does not come. Succeeding the above condition, the nervous excitement becomes so great that the person cannot be kept in bed, the mind becomes more disordered, a state of temporary insanity ensues, and convulsions, epilepsy, or apoplectic stupor close the scene: a scene of the most painful nature, perhaps, which the physician is called to witness—the deathbed of the drunkard—of the man slain by his own suicidal act, by the poison of alcohol.

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* Severe cases of delirium tremens have occurred in consequence of the too free use of Chloric Ether as a stimulant, and it is a question whether the now extensively employed Chlorodyne might not give rise to similar symptoms, if taken for a time in undue quantity.

It can rarely happen that an unprofessional person could have to undertake, unassisted, the management of a case of delirium tremens, and never should do so, except under extreme necessity. The nature of the disease is, unhappily, in almost all cases too palpable, from its exciting cause. It is an exhausted condition of the brain and nervous system, and the great effort must be to alleviate this exhaustion, too great even for sleep. Opium is *the* remedy among others, and must be given in full doses.* A medical man will of course give it more freely at once than another person; but in a confirmed case of delirium tremens, twenty-five drops of Battley's solution, or thirty of laudanum should be given at once, and ten drops every hour afterwards, until sleep has been procured, or until fifty drops of the former or sixty or seventy of the latter have been administered. A medical man would venture considerably further than this, if necessary: but cases might occur in which it would be unsafe for the unprofessional to do so. It often happens that the stomach is in so irritable a condition that it will retain neither food nor medicine; in such a case, the opium is better given solid, in the form of pill, one grain and a-half at first, and half-a-grain repeated at hour-intervals if requisite. If the stomach is still irritable, a drop of creasote, in a little spirit and water, may be given, and a mustard-plaster applied to the pit of the stomach. In cases of delirium tremens, the liver is more or less affected, it is loaded with dark unhealthy bile, and so much is this the case, that some have been inclined to attribute many of the symptoms of delirium tremens to the liver disorder, and to recommend a purgative treatment, in preference to that by opium. The author has generally found the medium course the best, that is, the combination of opium with calomel, and the compound colocynth pill. Five grains of powdered opium, ten grains of calomel, and twenty of compound colocynth pill, are to be compounded together and divided into twelve pills; of these, two or three should be given for the first dose, and one at intervals of an hour between each, till six have been given. Under this treatment, after sleep has continued
time, the bowels are generally acte
with immense discharge of dark
looking bile, much to the relief
patient. After this, the remaining p
be given, two every night, and cast
the morning, if required; five, ten, o
drop-doses of laudanum, or two tea
ful doses of paregoric being give
nervous irritation is unsubdued, or t
to return. After the nervous irrit
tolerably well subsided, the next
must be to restore the tone of the s
Eight-grain doses of the carbonates
or potass, combined with a tonic
calumba, gentian, or chamomile,
given for this purpose, every eight
or quinine or bark, in some form,
found useful. The India bitter be
ten drops of potash solution, may
serviceable. During the whole treat
will be necessary to allow the unf
subject of the disease a *certain*
portion of alcoholic stimulant, s
brandy and water, in some degree
tioned to the previous habits, and
as the stomach will bear it, the nouri
of strong meat broths, yelk of
beat up with a little brandy, o
or arrow root, with brandy, sho
given. If the tongue is very red at
and if the pit of the stomach is very
milk, with or without the additi
little brandy, should be substituted
above; fifteen drops of solution of
or one or two table-spoonfuls of flu
nesia or of lime-water may be adde
milk with advantage. In cases
sistent sickness, effervescing draug
ice given in small, frequently repeat
ments, are often useful. The recep
nourishment by the system is of the
importance in this disease, so much
is this the case, that as long as a m
tinues to take food freely, he is not l
become the subject of delirium treme
necessity for the continuance, in
quantity, during the treatment, of
mulant which has produced the
is evidenced by the fact, that many
delirium tremens are precipitated at l
the sudden withdrawal of the accu
excitement, and relieved by its re
and for the same reason the radical
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perance generally, though it can
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nicious habit, must, in many cases
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dangerous or fatal consequence may
Undoubtedly, men of naturally goo
ous power, whose stomachs still reta

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* Where opium is strongly objected to, Chlorodyne will generally be taken, and is in all respects
It may be given in about the same doses as Battley's solution.

of their pristine tone, and can receive and digest food in tolerable quantity, and where the constitution has not been thoroughly sapped by intemperance, may, and do with impunity and benefit abandon at once their habits of drinking, and when this can be done, it is the safest and most certain plan; but many cannot do this without risk, and must go more cautiously to work. Where spirits have been consumed, let them be exchanged for wine or malt-liquor, in reduced and reducing quantities. At the same time, with all who are endeavouring to break through the evil habits of intemperance, some innocent and rational excitement ought to be substituted for the pernicious one: excitement of mind or body of some kind must take the place of that which has been abandoned, if the full benefit of the change is to be derived.

Many methods have been devised for gradually weaning the intemperate from the craved excitement, perhaps one of the most feasible is that of commencing with a certain quantity of the accustomed stimulant, taking from it a measured proportion only, every day, and for every measure withdrawn substituting an equal quantity of water. The plan is a good one, but no plan will succeed without the firmest determination of the drinker to conquer the vice which is dragging him to ruin in this world and the next. If he will make this resolve, and pray to Him who alone can strengthen and uphold man's feeble will, then may he hope to overcome. Again it is repeated, the intemperate man, whose constitutional powers will enable him at once and without compromise to cast aside the vice, has the easiest task: but no man should do so except by medical sanction, and the further advanced in life, and the more confirmed the habits of the abstainer, the more necessary does the precaution become. But in any case in which a person who has been in the habit of taking alcoholic stimuli, abandons the custom, he should be under medical surveillance for a considerable time after, otherwise formidable depression of some or all of the vital functions may be the result.

The question of restraint in cases of delirium tremens is one of much importance; at times it becomes absolutely necessary to exercise it, for the preservation both of the patient and of those around. When the necessity does arise, it must be put in force with as much gentleness as may be compatible with firm command. The individual suffering should be kept in a bed where there is room for persons to be on each side, and all efforts at violence should be restrained by *perfectly adequate physical* power in the attendants. It is not necessary to keep the hands constantly upon the patient; if he knows—and he is generally conscious enough for this—and feels that he is mastered, he will remain quiet; but if by the temporary absence of an attendant, he thinks he can overpower the others, he again becomes unruly. This consciousness of hopeless effort on the part of the patient is in many cases the most powerful means of restraint. A strong webbing band made to cross over the bed about the middle, and to buckle at one side, is often extremely useful in checking sudden violence, whilst it ought to be sufficiently loose to prevent any feeling of restraint, such as the straight waistcoat gives rise to, thereby irritating the patient to a great degree, and inciting him to ceaseless and exhausting efforts to get free; the latter should never be used except under great necessity. The question of permanent restraint, where repeated attacks of delirium tremens occur, and where the patient is continually in a condition verging upon insanity, is a very puzzling one, in consequence of there being no asylum adapted for such cases. The person when at liberty *will* drink, and when he drinks he is mad; but when sober, or nearly so, his mind is not sufficiently affected to class him with the insane.

The difficulty of dealing with such cases is often extreme, both to the family of the patient and to the medical attendant. There may, it is true, be procured a keeper or guardian, but comparatively few can incur this expense, and it is but an insufficient safeguard after all; the consequence is, that numbers of such patients are kept at home, they cannot be prevented indulging their irresistible propensity to intoxication, and so, for a longer or shorter time, they are a source of danger and of terror to their family, and to every one around, and run hourly risk of terminating their own miserable existence by a more speedy description of suicide than the one they are following. It is much to be regretted that no proper provision is made in this country for the reception of such cases, which cannot properly be handed over to a lunatic asylum; for no sooner is the stimulant withheld, or regulated, than they become restored to sufficient intelligence, at least, to make them unfit inmates of the place.

Refer to—*Alcohol—Intemperance, &c.**

DELIVERY.—See *Child-bed.*

DEMULCENTS.—The name, as used in medicine, is applied to remedies which exercise a soothing influence, more especially upon the mucous membranes and upon the skin, when these are from any cause in a state of irritation. The demulcent may either be applied directly to the irritated and irritable surface, as in the case of the stomach and bowels, or indirectly, as in the case of irritation of the urinary passages, and of the bronchi or air tubes.

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* Refer to Dipsomania.

The principal dumulcents are—

Almond (sweet).
Arrow-root.
Carrageen moss.
Eggs, in the form of emulsion.
Gelatine and Isinglass.
Gum Arabic
Grains, in their preparations: barley-water, gruel, &c.
Lard.
Linseed.
Liquorice.
Marsh mallow
Oils.
Sago.
Salep.
Spermaceti.
Tragacanth gum.
Wax.

It cannot be said that any of the above substances act as medicines in the proper sense of the word, nevertheless, they constitute a class of remedies peculiarly valuable for domestic use. They are perfectly safe, and certainly most beneficial; at the same time, it is a necessary caution that the prolonged use of demulcent remedies is liable in some persons to occasion a relaxed and debilitated condition of the system. For further information respecting the individuals of the class, the reader is referred to the separate articles.

DENTIFRICE.—See *Teeth.*

DENTITION.—See *Teeth.*

DEOBSTRUENTS are medicines which have, or are supposed to have, the power of removing unnatural thickenings or formations from any portions of the body. Such medicines were formerly much more used and depended upon, particularly as external applications, than they are now. That is, there were many substances employed for a sort of mysterious deobstruent action, which probably possessed no such action at all.* Mercury, iodine, cod-liver oil, and friction are, however, deobstruents to be trusted, and are much employed as such in the present day.

DEPILATORY is an application which removes the hair from the skin. Pitch applied to the surface to be denuded, and then forcibly pulled off, so as to bring the hairs with it, was formerly used for this purpose, but has, deservedly, with other barbarous customs of another age, fallen into disuse. Preparations of quicklime and of arsenic have also been used for the same purpose. In the few cases, such as some kinds of skin disease, in which it may be thought necessary to detach the hairs by the roots, they often come out easily, and the process is better effected by means of tweezers, than by the wholesale, painful, and it may be dangerous, though perhaps quicker methods above-mentioned.

DERBYSHIRE NECK.—See *Bronchocele.*

DERIVATIVE.—The term, as used in medicine, signifies whatever tends to withdraw diseased action from any part of the body, by means of action—not necessarily diseased—set up in some other part. Thus, bleeding from the lungs may be stopped by the derivative action exerted by the flow of blood from a vein opened in the arm, or inflammation affecting the eyes may be relieved by a blister, or seton, at the back of the neck.

Derivatives may be either natural or artificial. The principal natural derivatives are, either the discharge of blood, or the increase of natural secretions; thus, bleeding from the nose may act derivately, as regards the brain, or the bleeding from piles as regards the liver, or parts within the abdomen; or an attack of diarrhœa may also act in the same way. Boils, cutaneous eruptions, ulcers, &c., also act as derivatives, but in many cases approach the class of counter-irritants. The great principle involved in the existence of natural derivatives is, that they must be the effect of some cause, and in many cases, of some internal disorder which has thus formed for itself a safety-valve, through less important channels, for the protection of more important organs. Much caution is requisite in stopping, or permitting to be stopped, incautiously and blindly, what is to be regarded as a natural derivative. The symptom itself should be regarded only as the outward sign of something which requires rectification within, and the efforts should be directed to the discovery of this inward acting cause, and to its removal when discovered; this being done, the external symptom will possibly disappear; but even should it not do so quickly, in consequence of having established an habitual local tendency, it may be much more safely attended to as a local disease, after the constitution has been relieved. Not only, however, must the constitution be relieved at the time, but if the natural derivative is done away with, it must be kept, if possible, free from the primary disorder; otherwise, should this recur, and should the constitution fail to re-establish the natural derivation in time, serious or fatal consequences may be the result. It not unfrequently happens that, some months after an old ulcer has been healed, or cutaneous eruption removed, that the individual is seized with some dangerous internal malady, perhaps apoplexy, which might have been prevented, if, after the natural drain had been closed, strict attention had been paid to the regulation of the general health. This is a cogent reason why persons in whom some natural derivative action, such as any of those named above, has stopped, or been stopped, should pay the greatest attention to diet generally, to the regulation of the bowels, to the functions of the skin by cleanliness, of the lungs by fresh pure air, and of the system generally by exercise, and why on the slightest symptoms of indisposition they should subject themselves to medical treatment. A still more cogent reason is it why such persons should beware of tampering with themselves with quack ointments, lotions, and outward appliances, which if they do cure sores, as they profess, without constitutional treatment, must do mischief, for they would merely obliterate the outward symptom of disease, and send the latter to attack perhaps some vital organ.

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* Or, at all events, owed any apparent action to the mechanical action of rubbing.

Artificial derivatives, such as blood-letting, blisters, &c., may be referred to under their proper heads.

DESQUAMATION is the separation, in scales or flakes, of the outward or scarf-skin. Strictly speaking, desquamation is constantly going on on the surface of the body, and scales or scurf are constantly being separated in small and almost insensible quantity; but after some inflammatory diseases, particularly those of an eruptive character, such as scarlet fever, measles, &c., a much more copious desquamation takes place, and the scarf skin separates in large pieces. The same thing occurs after irritants, such as mustard-plasters, blisters, &c., have been applied to the skin. Desquamation, whether natural or the consequence of disease, is always facilitated by the use of the tepid or warm bath.

Refer to—*Skin*.

DIABETES is a disease in which the urine is discharged in unusually large, often in enormous quantity, and for the most part contains a large amount of saccharine matter. The serious nature of the affection, renders it one of those which should be trusted for treatment only to medical hands; the same reason renders it important that its first symptoms should be known, that they may not be neglected. It may creep on a person insidiously, or be suddenly developed. The first and most prominent symptom which usually awakens attention, is the frequent call to pass urine abundantly, at the same time, the thirst is extreme, and the appetite voracious. As Dr. Watson remarks, some persons, especially among the lower orders, are apt to think, that as they eat and drink so well, there cannot be much the matter, and are thus lulled into security, whilst a fatal disease is undermining their constitution. In addition to the symptoms already mentioned, the mouth is dry, and the tongue clammy and sticky, often very red; there is flatulence and indigestion, and the bowels are generally constipated. Emaciation and general debility also occur; pain and weakness in the loins, and feebleness of the limbs. The leading symptom, however, is the discharge of urine, which has been authentically known to exceed forty pints in the twenty-four hours. At the commencement of the disease, the urine may still retain the urinous properties of the diluted secretion; but this passes into the saccharine condition, and sugar which may be obtained in a crystalline state, is largely discharged. If yeast be added to the urine, it ferments, and alcohol is formed, the sugar partaking more of the character of grape or fermentable sugar, than of the cane. Diabetes is often accompanied by other diseases, especially by pulmonary consumption.

A disease of the nature of diabetes can never with propriety be treated domestically, and an individual who may detect in himself the occurrence of the symptoms detailed above, should at once seek competent medical assistance. The dietetic treatment of diabetes is probably of more importance than the medicinal; the chief precaution being the avoidance of whatever, either sugar of any kind, or vegetable starchy matter, is capable of being converted into grape or fermentable sugar. This of course involves the prohibition of bread made from ordinary flour, which contains all the starchy matter of the grain. This privation is always much felt and complained of, and various substitutes have been proposed. The following, by Dr. Percy, is probably the best. "Take the woody matter of sixteen pounds of potatoes, washed free from starch; three-quarters of a pound of mutton suet, half a pound of fresh butter, twelve eggs, half an ounce of carbonate of soda, and two ounces of dilute hydrochloric acid. This quantity to be divided into eight cakes, and baked in a quick oven until nicely browned.

"It is, as must be obvious, an expensive article, but with many diabetic patients this will not be an object of consideration. It is somewhat improved in taste by being slightly toasted."

Bullock's semola, which consists nearly entirely of wheat gluten, would form a nutritious substitute for the arrow-root and sago mucilages.[*] Animal diet is principally to be depended upon for nourishment, and some of the green garden vegetables, such as spinach, are permitted. Distilled water, or boiled water, but *not toast water*, may be used for drink. Dr. Prout, in some cases, found porter beneficial; and in France, claret has been given with advantage.[†]

The tepid bath, to induce perspiration, is often of service. As regards medicine, its prescription *must* be left to the medical man. Persons who suffer from any suspected tendency to diabetes cannot attend too strictly to the state of the digestive organs. Wet feet must be particularly avoided, and flannel should be worn next the skin; while all sources of debility, sexual excesses in particular, must be most strictly eschewed.

Refer to—*Fermentation—Sugar—Urine, &c.*

DIACHYLON PLASTER is the commonly used adhesive plaster spread on calico. It was formerly prepared by hand, but as now executed by machinery, is a beautifully uniform preparation, and notwithstanding many substitutes, is still the most firmly adhering, and most to be depended upon of the plasters for retaining the edges of wounds in apposition. People in general have a very false idea of the nature and uses of this and of other plasters. They attribute to them some healing power over the wound, whereas their only use is, by keeping the edges of the wound in perfect apposition, to permit them to heal by the natural power with which the living tissues are endowed. This idea of the healing properties of diachylon, however, often leads to mischief, from inducing persons to apply the plaster to abrasions and sores, which it seriously irritates, causing with some, much increase of inflammation, and troublesome ulceration. The practice is most hurtful, and should never be followed. This idea of the healing powers of diachylon has, too, been probably increased by its known use by surgeons in the treatment of, and for the healing of ulcers. In this case, used as a strapping round the leg, and over the sore, the latter quickly gets well, and it would seem, under the influence of the diachylon plaster, which, however, in this case is used only as a convenient mechanical agent, which will closely envelope the limb, and give support to the weakened vessels and infiltrated tissues, which have encouraged, and which surround the sore. The diachylon, it is true, passes over the ulcer, but it is prevented exerting any effect upon its surface by the intervening discharge. Sometimes, even when applied to the sound skin, diachylon is found too irritating, in which case soap or lead plaster must be substituted. If diachylon plaster is kept folded up in too warm a situation, it adheres together and becomes useless.

Refer to—*Plasters.*

DIAGNOSIS is a frequently used medical term, which may be applied either to the "art of discovering the nature of diseases, and of distinguishing them from each other," or to the conclusion arrived at by the exercise of the art. In other words, when a medical man, after investigating a disease, expresses his opinion respecting its nature, it is called his "diagnosis" of the disease. It must be evident to all how much, indeed how everything depends upon a correct diagnosis of the existing disorder; for unless correctness on this point be attained, treatment can scarcely be of much service, and if active, may be worse than no treatment at all. It is true that there are certain general symptoms of disease which may be treated, perhaps with benefit, in a general sort of way, without the medical attendant having any definite idea of the existing derangement. Such is the case with most febrile diseases, and many others, and as the natural powers do much towards the removal of the malady, and to promote restoration to health, a practitioner *may* practice in this loose sort of way with apparent success; he treats prominent symptoms, attends to diet, &c., and his patients get well. But this is not the true practice of medicine, it is very different from the active, well directed and energetic measures of the man who having both the knowledge and the will to truly investigate his case, and having done so, strikes home at once. The man who does not or cannot make a correct diagnosis is working in the dark; and if he uses edged tools, so much the worse for his patients, whose safety must in some measure depend upon the treatment of their cases being conducted upon the same inert plan as their investigation. At the same time, if there be any efficiency in medical treatment at all—and no man who knows his profession and practices it conscientiously can doubt it—how much passive evil must result from insufficient and slovenly investigation of disease; how much must be and is every day overlooked, which ought not to be so; how often are germs of fatal disease undetected which ought to be detected, until they have ripened into active growth that is not to be repressed. One or two cases will more forcibly illustrate the difference between a loose and ill-defined treatment of disease, and that which is the result of accurate diagnosis. A child is taken ill, becomes feverish, the breathing quickened, and there is frequent cough, along with other symptoms, indicating in a general way inflammatory affection of the lungs, and so far, perhaps, the diagnosis is too plain to be overlooked, even by a very cursory examination, and tartar emetic, mercurials, &c., are remedies so generally useful in such cases, that they will be prescribed with probable success, and it may be that the little patient will get well under their use; but it may not so happen—the disease evidently does not yield, the feverish condition, the quick breathing, and the cough, all shew that it is still active. It is evident that abstraction of blood is called for, but the child will not bear it from the arm, and it must be effected by leeches—where?—of course on the chest. But on what part of the chest? Here comes the point of diagnosis, the careless or slovenly practitioner will be content with the general indication of the fore part of the chest, unless indeed there is complaint of pain—which may mislead as well as lead—to direct his aim elsewhere, and the chances are, that blood is taken away, comparatively little good is effected, and the child, not the disease, is weakened. The error may be a fatal one, which a correct diagnosis would have prevented. It may be that the anterior portions of the lungs are free from disease, which is confined to the posterior and lower portion of one or both. If a correct diagnosis has been made, this should be known, the practitioner, by the percussion of his fingers and the application of his ear to the chest, will probably be able to lay his hand upon the skin over the seat of disease, and to mark out with confidence the limits within which blood may be abstracted with the greatest certainty of benefit.

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[*] Almond biscuits, and diabetic bread, or gluten bread, which can now be obtained in several agreeable and palatable forms, may be tried, but it must be remembered that these, though conjoined with a liberal meat diet and green vegetables, will prove quite useless if any starchy or saccharine matters of food be taken.

[†] It has been observed that diabetic patients have improved for a time at all events, under all plans of treatment, but although perhaps no disease has attracted more attention from the profession than diabetes, no one plan of treatment has been found successful. Amongst other things yeast has been found of benefit, as also the administration of the alkaline salts, in large doses, Vichy water, &c.

Again, a patient suffers from indigestion, from weakness, pain in the back, and general symptoms of bad health; the spirits are depressed; a general diagnosis is perhaps made, and the round gone of various tonic remedies, alterative remedies, &c.; but the urine, if thought of at all, is passed over with a cursory glance: to the unassisted eye it looks all right, and perhaps is proclaimed so, but place a drop of it under the invaluable microscope, and it is found laden with crystals of oxalic, or phosphatic, or some other deposit. The correct method of diagnosis affords at once the key to the main points of the disorder, and probably to its successful treatment, which might have been groped after in vain, or if stumbled upon by accident, and found successful, the success would give but little clue in the next case of the kind which might occur, or it may be that false ideas of the nature of the disease, a false diagnosis having been formed, the success itself will constitute an abundant source of evil and error, not only to the individual practitioner, but to others. The fact being a false one, leads to false conclusions. The above cases —which might be multiplied to any extent —have been brought forward to show, how much success in treatment must depend upon the correctness of the diagnosis which the attendant practitioner forms of the disease of his patient. They have also been brought forward to show, that this correct diagnosis can only be attained by time and patient attention and investigation, even by the greatest in science. In many cases, no extent of knowledge will enable a physician to say what portion of a lung is affected, unless his sense of hearing conveys the exact information to his mind in a physical examination. A physician may suspect from symptoms, that his patient is suffering from disease which tends to the formation of oxalic gravel, but he cannot positively assure either himself or others that such is the case, unless he actually see with his eye—through the microscope—the peculiar crystal which marks the disease. From what has now been said, it must be evident that the highest attainments in medical knowledge will not compensate for a hurried examination of cases; there must be time; people forget this: attracted by some great name, and in all probability a really and truly great one, they crowd the reception rooms, and are passed in quick succession through the consulting room of the fashionable practitioner, who *cannot* give time to the full investigation of the cases which come before him. Few, perhaps, attain the meed of popularity without having well deserved it, or retain it without deserving to retain it by their progressive attainments; but, withal, they are not gifted with intuition, and if the public will compel them to see ten cases in the time they ought to take to two or three, the public must suffer, and they do suffer, for many a case overlooked is unravelled by the patient investigation of some less occupied practitioner.

It must not, however, be supposed, that it is here insinuated, that time and patience alone are sufficient for the proper investigation of disease in the living body; the man of experience, and who to his experience has added accurate observation, will undoubtedly seize more quickly than one less informed, the most distinctive features of the case before him; even at a single glance, in some cases, he may form a conclusion—and it may, probably, be a correct one—in his own mind respecting the nature of a case, and this conclusion will lead him at once to use the means of diagnosis best adapted quickly and surely to satisfy his mind; but even with all this, with abundant knowledge and ready tact, some time is required in all cases, often much more than is given by some in the full tide of practice. Nothing will compensate for a hasty and imperfect diagnosis, and evils innumerable spring from it. On this head, Dr. Watson, one of the ablest physicians of the day, remarks, "It is mainly to the uncertainty in the diagnostic part of medicine, that we must attribute the uncertainty and variation both of doctrine and practice, which have brought so much suspicion, and reproach and ridicule, upon the science we profess." The case of the fashionable London physician has been alluded to, overwhelmed with fees, and with work, which he cannot, in many cases, perfectly fulfil; but there are others in our profession overwhelmed with work, with the same effect, but unfortunately without the fees, and without their patients having a choice of avoiding the evil. These others are the union surgeons, who are hired at a miserable pittance in many instances to attend an unlimited number of poor; unable to maintain an assistant out of their wretched salaries, they cannot, within the bounds of physical possibility, if they are to get through their day's work at all, give time to investigate their cases properly: it needs not to point out how this must convert a miserable economy into extravagant and unnecessary expenditure. There is yet, however, another essential—in many cases at least—either to facilitate or enable the formation of an accurate opinion of a case of disease, and this is, *perfect candour on the part of the patient towards the medical man consulted;* and not only candour, but thoughtful consideration and communication of every circumstance which is, or may appear to be, connected with the illness. Whether it be hereditary predisposition, or personal transgression, nothing should be concealed. Females often permit prudery or mistaken feeling to interfere with their communications with a medical adviser; but one thing can be said upon this matter, if they cannot confide in him on these points, he is unworthy of their confidence at all, but the same resolution which induces the consultation, ought at the same time to give this resolve, to leave nothing untold connected with the state of health.

So much has been said with regard to the necessity for a well-defined diagnosis, that it may lead some to suppose that this can be made out in all cases, which is not possible; many diseases are, it is true, so distinctively marked, that there is no difficulty in assigning them their true name and character, but there are many diseased conditions of the human frame, which will not fall under any classification, and which baffle the best directed efforts of our *present* knowledge for their elucidation. In this case, the diagnosis must be what has been called "empirical;" it is imperfect, because the science of medicine is yet an imperfect one, and if it do not inform us of the real nature of the disease, it must, taken in connection with experience, be used as a guide to treatment. These observations are made, that too much may not be expected from medical men by the public, and to show, that because a medical man will not, or cannot, give a defined diagnosis of a disease, he is not necessarily ignorant of its proper, or, at all events, best ascertained mode of treatment. Further, when it is reflected how strict an investigation is required at the hands of those whose lives are and have been devoted to the subject, it ought to make unprofessional persons doubly cautious in dealing with disease. To quote from the "prefatory address" to this work,—"When it is remembered, how the nicest judgment that observation and experience can form, the most patient attention, aided by practised ear and eye, by microscope and test tube, are frequently necessary, to enable the conscientious physician to judge of his case before he can apply the remedy, it is evident how great must be the responsibility of those who, in rashness or ignorance, venture upon the treatment of serious disease, either in their own persons or in those of others;" this is not meant as a discouragement, but as a caution, for the real object of a work like the present, can only be fulfilled, when the good it offers is safely and judiciously employed.

Lastly, either our physicians, most of them men of christian character and of high honour, make a parade of their diagnosis of disease, and devote their lives of labour to deceive the public, or are themselves deceived, or quackery and quack medicine must be impudent lies and wicked deceits. The individual who purchases a quack nostrum, can either have no idea of the disease—if he has one—under which he is suffering, or only the crude idea—diagnosis—of his own judgment, and upon the faith of this, he *prescribes for himself* the unknown compound of an unknown—to him at least—individual, on the faith of some lying advertisement. Is the diagnosis of the physician a delusion and a snare, or does the patronizer of the quack remedy exercise the same judgment in the treatment of his body that he would in his worldly business? To our readers we leave the answer.*

Refer to—*Advice, Medical—Disease, &c.*

DIAPHORETICS—are agents used in the practice of medicine which "determine to the skin" or produce perspiration or sweating. When it is considered how extensive the surface of the skin is, how largely it is supplied with blood, and how abundantly with means for exhaling moisture—see *Skin*—it must be evident how powerful an influence its excitation or depression must exert upon the condition and functions of the body. This influence is so undoubted, and so marked, that in all ages, and in almost all nations, even the most uncivilized, the cure by promoting the flow of the sweat has been a common and favourite mode of treatment. Among the tribes of North American Indians, it is employed, as described by Mr. Catlin, both as a curative and as a sanitary agent. The most general mode of exciting perspiration, particularly among the more uncivilized portions of mankind, is by means of hot vapour or the vapour-bath, but they also employ abundantly, decoctions of various herbs, as assistants to the process.

The effect which the constant insensible perspiration from the body exerts in diminishing its temperature, must, of course, be augmented as the excretion and evaporation of fluid from the surface is increased, furnishing an active agent for lowering the temperature of the body in states of fever. Every one knows how much and distressingly the dry heat of the skin is felt, and how grateful the sensation of moisture upon the surface. In addition to the reduction of temperature, however, the action of diaphoretics must tend powerfully to relieve congestion or collection of blood, or inflammatory action in internal organs, and, indeed, the fact is every day manifest in the treatment of disease, not as regards general perspiration only, but also as a consequence of the effect of local agents—such as the bran poultice so often mentioned in this work—which produce sweating of the part to which they are applied. The most useful diaphoretics for domestic purposes are—

Ammonia. In the form of carbonate, when stimulation is required at the same time, and in the form of acetate or "Spirit of Mindererus," which is one of our most certain and safest diaphoretics.

Antimony. In the form of the tartrate of antimony, in small doses, when fever is excessive, and the true James's powder, which is the safest form for children.

Baths. Tepid, warm or vapour, or used as in hydropathic establishments by means of the wet sheet and blankets.

Ipecacuanha. In any of its combinations.

Opium. Particularly in its combination with ipecacuanha, named Dover's powder.

To the above may be added, sweet spirit of nitre, gin, and diluent drinks of all kinds, sometimes cold, but generally warm, and exercise. There are many other agents employed in medicine as diaphoretics, but they are not likely to be used domestically, unless, indeed, we except the Dulcamara, or bitter-sweet, also called woody night-shade, which, being a common native plant, might be used in the absence of other remedies of the class.—See *Dulcamara*. For information respecting the other diaphoretics mentioned, the reader is referred to their respective articles.†

When perspiration is thought to be desirable, it is immaterial what agent is selected to produce it; thus, if there is very hot dry skin, and quick hard pulse, antimony will generally be most useful; if there is depression, spirit of mindererus, sweet spirit of nitre, or carbonate of ammonia will be most suitable, and with any of these ipecacuanha or opium may be combined. *To form one of the most useful and certain sweating draughts*, take of spirit of mindererus half an ounce, of antimonial or ipecacuanha wine fifteen to thirty drops, and water four table-spoonfuls, adding or not, as circumstances dictate, ten drops of laudanum, or a teaspoonful of paregoric.

As there is always a degree of uncertainty, especially in some constitutions, in the action of diaphoretic medicines, when they are taken, every means should be used to assist and promote the desired effect. Confinement to bed is absolutely necessary, and before retiring there, it is *always* well to put the feet in hot water for twenty minutes; the diaphoretic medicine should be used on getting into bed, and nothing more for three quarters of an hour, when the warm diluent drinks are to be commenced with, and may after that be taken *very freely*, and continued as long as the sweating process is kept up. If the warm diluent drinks are taken too soon after the medicine, sickness will probably ensue, and so the object in view be defeated: purgative medicine, which is likely to act during the operation of a diaphoretic, should be avoided, for the disturbance occasioned thereby will not only effectually counteract the desired process, but may, by checking it, aggravate the disease it was intended to benefit. Some persons promote the action of sweating, by cold instead of warm drinks; in cases of much febrile heat and excitement they may be useful, but, as a general rule, it is the safer plan to keep to the warm fluid. When sweating is produced, the person should *always* have flannel next the skin, never linen, and of course there must be sufficient covering to maintain the requisite temperature; if the person is labouring under infectious disease, additional care is, of course, requisite in the after disposal and purification of the woollen clothing. When it is thought desirable to check the sweating process, every source of chill must be avoided, the skin is to be dried with *warm* towels, and fresh clothing, previously slightly warmed, put on, the coverings lightened, and the hands and arms gradually exposed. There is sometimes great difficulty in producing perspiration in certain constitutions; when such is the case, the medicines should be given, and other means resorted to, towards four o'clock in the morning, that is, just previous to the time in the four-and-twenty hours, when the body, either in health or disease, appears most liable to perspiration.

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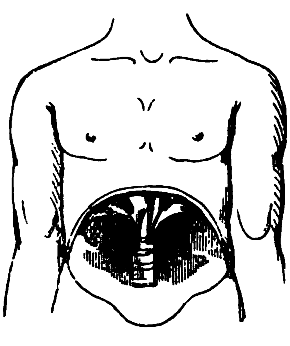
* Since the introduction of the Stethoscope, no instruments have been invented which have been more important aids to diagnosis than the Laryngoscope and Opthalmoscope, by the former of which many diseases of the throat, and by the latter many of the eye can be recognised and treated, which were formerly a dead letter to medical men.

† See Appendix—article "Bath."

Refer to—*Skin.*

DIAPHRAGM, or Midriff,—is the partly muscular and partly tendonous and membraneous partition, which extends between the chest and the abdomen—fig. A—separating the heart and lungs on one side, from the liver and stomach on the other. The diaphragm assists materially in the process of respiration, descending and pressing downwards upon the contents of the abdominal cavity each time a breath is drawn; this is more particularly seen in some cases of chest-disease, when the respiration becomes almost entirely dependent upon this action of the diaphragm. From this it must be evident to all, how important it is that this muscle should have free play, and how much its essential movements must be impeded by anything, such as tight lacing, which presses the contents of the abdomen upwards.

A



Refer to—*Lungs—Respirations, &c.*

DIARRHŒA—consists in frequent and urgent calls to relieve the bowels, the evacuations being for the most part more liquid than usual. The causes of diarrhœa are very numerous, but may, perhaps, be classed under three heads, nervous causes, causes which act upon the surface of the body, and irritating causes which act directly upon the bowels themselves. Perhaps the simplest form of diarrhœa is that arising from nervous causes, such as some experience on the approach of thunder, or from electrical disturbance generally, or such as arises from emotions of the mind, as for example—fear. In these cases the bowels would appear to be simply "relaxed," the evacuations being healthy with exception of being thinner, from their more rapid passage through the bowels. The simple salutary diarrhœa in teething children, is an example of the same kind.

Influences affecting the surface of the body, particularly cold, and especially cold feet, often produce diarrhœa; cold nights succeeding hot days are often said to occasion the disease, but it is also remarkable, that diarrhœa is apt to occur at the breaking up of a long frost, indeed to be epidemic, that is of general prevalence.

By far the most frequent cause of diarrhœa, however, is irritation in the bowels themselves, caused either by undigested or indigestible food, by acid, by acrid, morbid bile, or by the deficiency of that fluid permitting the digested food to become unduly changed; it may also be caused by an accumulation of hardened feculent masses, or as they are called in medical language "scybalae;" or by the lodgment of such matters as the skins of old peas or beans, or of raisins, in the folds of the large bowel; the above are frequent causes of teazing diarrhoea in children. Lastly, diarrhoea may be dependent upon disease of the bowels themselves, such as affection of their minute glands, when it constitutes dysentery, or ulceration of the glands and of the lining membrane, such as occurs in fever and consumption.[*]

It must be remembered, however, that to some persons a habitually relaxed condition of the bowels is natural, and at the same time essential for health, and that to check it is dangerous. It is evident, that in a disease depending upon so many and various causes, a due discrimination of these is requisite for proper treatment. It must not, either, be lost sight of, that diarrhoea is in many cases salutary, an effort of nature to free the constitution from some morbid matter which, if retained, would produce disorder or disease. On this account, the simpler forms of diarrhoea are better left to right themselves so long as they keep within moderate bounds; *this caution is particularly to be observed with regard to that which occurs in the teething of children*, which when moderate is a safeguard, but when it becomes so frequent that the child is evidently weakened by it, and especially if the evacuations appear to be losing their feculent character and become like shreds of skin, or streaked with blood: in such cases, a warm bath for six or eight minutes, temperature 92°, should be used for two or three evenings in succession; isinglass or gelatine given in the milk food, and the castor-oil emulsion with yelk of egg—see *Castor-oil*—given three or four times a-day, each dose containing from a quarter to half a drop of laudanum. Of course medical assistance being procured if the complaint is not quickly *moderated*, for checked entirely it should not be.

In diarrhoea resulting from exposure to cold, the best plan of treatment is to moderately re-excite the skin according to the system recommended in the article "Diaphoretics," and also, if requisite, to administer the remedies prescribed for continued diarrhoea generally.

When diarrhoea is caused by irritating matters in the bowels, one thing is evident —it cannot be properly relieved unless the bowels are freed from the irritant matters; it may, it is true, be stopped under these circumstances, but it will recur, unless indeed the irritating substance has been removed by the action, previous to the use of the astringent medicine, and the continuance of the diarrhoea is merely the consequence of the previous irritation. In many cases in which the diarrhoea is owing to irritant matters in the bowels, particularly to acrid bile, all that is requisite is to diminish the acridity by means of demulcent drinks largely used, to which, if there is acid in the stomach, a little carbonate of soda is to be added. In other cases, when the action of the bowels is constant, painful, and exhausting, it is absolutely necessary to check these symptoms in the first place, and to soothe the bowels, before means are resorted to for freeing them from the irritant cause. For the former purpose, the common chalk mixture in three table-spoonful doses, with the addition of five drops of laudanum to each, may be given at short intervals till the disease is checked; or the compound chalk-powder—dose thirty to sixty grains—and the same powder, with opium—dose, five to twenty grains—are both useful.[†] Or aromatic confection may be given in half-drachm doses in water, with or without laudanum. If the active diarrhoea does not, from its comparative mildness, require these remedies at first, or when it is sufficiently moderated, the bowels should be thoroughly cleared out with a table-spoonful dose of castor-oil, to which ten drops of laudanum have been added; this will probably clear away the irritating matters, if they consist of indigestible substances, hard feculent matter, or the like. When castor-oil cannot be, or is not taken, the best substitute is twenty grains of rhubarb and fifteen of calcined magnesia, with some aromatic, such as half a tea-spoonful of sal volatile, or a tea-spoonful of tincture of rhubarb, and if there is much pain, five to ten drops of laudanum, the dose being repeated, if requisite. After the action of the opening medicine one or two doses of astringent may again be required, as the bowels are apt to keep up acting, simply from irritability. Medical men sometimes give more active purgatives to clear away irritant matter; but the practice is not safe in the hands of the non-professional.

When diarrhoea has been permitted to pass into the stage of irritation, when there is tendency to fever, the belly tender, the tongue red, and the motions resemble shreds of skin, or pieces of jelly, and are mixed with blood, the case is of that serious nature that medical assistance should at once be obtained, if it has not been so before. In the meantime, the emulsion of castor-oil with yelk of egg will be found the safest and most effectual medicine; two table-spoonfuls, with five drops of laudanum, being given every four hours, and starch and laudanum clysters; the diet being as unirritating as possible, and containing abundance of gelatine. A most excellent drink in these cases is rice-water, in each pint of which from a quarter to a whole ounce of gelatine or isinglass is dissolved, with a piece of toasted bread introduced to flavour it, or a little cinnamon.

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[*] The co-existence of diarrhoea with typhoid fever, has within the last few years become more especially an ascertained fact.

[†] The new remedy Chlorodyne, in doses of from ten to forty minims, is a most useful agent in the treatment of certain forms of diarrhoea.

In the more severe forms of diarrhœa, such as that connected with consumption or fever, or when fever is present, medical attendance should alone be trusted to, but when unattainable, the disorder must be treated according to such of the methods above-detailed as may appear most suitable. In all probability the soothing and astringent plan, such as chalk with opium, will answer best. The author has found bismuth of much service in some of these cases. Creasote has been recommended in cases of intractable diarrhœa. In case of much tenderness of the bowels, a few leeches might be used, but pain generally should be treated with the hot bran poultice. The use of diluted sulphuric acid in frequently repeated doses has lately been highly recommended in the treatment of diarrhœa.*

Diarrhœa may occur as a chronic, or long-continued affection, lasting for months or years; but these cases depend on such a variety of causes and influences, and require so much care in treatment, that they can only be advantageously managed by a medical adviser, and ought as soon as possible to be put under the care of one. In these and in all cases of bowel complaint, diet exerts great influence; generally speaking, the preparations of milk and of the grains are most suitable, such as arrow-root, sago, tapioca, rice, &c. When broth is given, it should be in small quantity and of tolerable strength; it is improved by the addition of gelatine, and of *well-boiled* rice. Alum whey is sometimes found useful in these cases.

Refer to—*Alimentary Canal—Bile, and Biliary Disorder—Digestion, &c., &c.*

DIASTASE,—according to Liebig, is a portion of vegetable gluten in a state of decomposition, which possesses the power of converting starch into grape sugar, in fact, of acting as a sort of yeast or ferment.

DIATHESIS is a term used in medicine to indicate states of constitution peculiarly predisposed to certain diseases, such as scrofula, cancer, gout, &c. Peculiar diathesis is for the most part hereditary.

DIASTOLE is the dilating action of the heart, or that by which its cavities are opened to attract and receive a portion of the current of blood, after a previous portion has been expelled by the systole or contracting action of the organ.

Refer to—*Circulation—Heart.*

DIET.—See *Food.*†

DIGESTER, or **Papin's Digester,** is a strong iron pot, the lid of which is fastened or screwed down, so as to be steam-tight, and is provided with a valve. By these arrangements, when the digester is placed near to or over the fire in cooking, the steam is confined, and by its pressure prevents the contents from boiling at the ordinary boiling temperature of 212°, consequently it is possible to raise the temperature above this point, or that at which the amount of heat carried off by the evaporated steam, balances that received by the fluid. This power of elevating temperature, confers of course upon the water which must be used in the vessel, increased power of acting upon bones, or any other substances immersed in it. The use of the digester, either in an economical or dietetic point of view is to be strongly recommended. The valve, of course, prevents all danger from bursting. The price is moderate. Bones which have been well acted upon in a digester, have their animal matter so thoroughly exhausted that when taken out they fall in pieces, little being left except the earthy constituents. The amount of animal nourishment in the form of gelatine thus extracted from bones is very considerable, quite sufficiently so to make it an object to the poor in their own homes, and in the houses of the rich, as the foundation of soup for distribution.

Refer to—*Heat—Gelatine, &c.*

DIGESTION‡ is the process by which food is fitted for the nourishment of the animal body. The whole process may be divided into—

The mastication or chewing of the food, and its mingling with the saliva or spittle.

The swallowing of the food.

The digestion of the food in the stomach, by means of the gastric juice.

The mixture of the food with the bile and juice from the pancreas, and its conveyance through the small intestines.

The passage of the remains of the food into and through the large intestine, or colon, during which it becomes acid, and mixed with the fæculent excretions from glands of that bowel.

The discharge of the remnants of the food from the body along with other excrementitious matters.

To the above may be added the passage of the digested and nutritious part of the food into the blood.

The first process of digestion, the mastication or breaking down of the food by the teeth, and its mixture with the saliva, is one of extreme importance. The teeth of man are evidently adapted for the two processes of cutting and bruising; the front or "incisor teeth" being constructed for the former purpose, the back, or molar, for the latter. These adaptations are well seconded by the action of the powerful muscles of the lower jaw, which give it a direct cutting, and a side to side or grinding motion; the morsel of food submitted to this mechanical action being at the same time kept admirably under it by means of the extraordinary mobility and sensibility of the tongue, whilst it is at the same time thoroughly moistened by the saliva or spittle, which is poured out abundantly from the "salivary glands," which lie imbedded around the mouth and jaws; the same mechanical action which grinds the food, serving at the same time to press out the secreted saliva. This fluid, however, does not act simply as a moistener of the food, it exerts a distinct chemical or digestive power upon its starchy components, acting in the same manner as the "Diastase" mentioned a few articles back, and converting them into sugar, in which state they become fitted for absorption into the blood, a capability which starch does not possess. It has also been imagined that air becomes mixed with the food during mastication, and that its presence in the stomach was in some degree connected with the process of digestion; this, however, is doubtful. When the food morsel has been masticated, and moistened sufficiently—at least such ought to be the case—it is collected by the action of the tongue into a ball, and conveyed to the back of the throat or fauces, where it is consigned to the care of involuntary muscles, and passes for the most part from under man's direct control. Passing from the throat into the gullet, it is carried by the wave-like action of that tube into the stomach. This action is not, as some might imagine, a simply mechanical one; that is, the food does not drop into the stomach as it would into a bag, by means of its own weight, but it is carried thither by the muscular movements of the œsophagus, or gullet, by the same power that water is conveyed upwards through the gullet of the drinking horse or cow, or indeed in ourselves, as any one can testify who has drank from a spring by stooping down to the water.* The entire process of swallowing, particularly that part of it by which the top of the windpipe is protected during the passage of the food over it, is a series of beautifully connected actions.

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‡ In connection with this article, the reader is requested to refer to that under "Alimentary Canal.

* The treatment of diarrhœa by Sulphuric Acid, which was brought forward more than ten years ago, has continued in favour among medical men, more especially in cases with furred tongue, without much redness at the tip or edges

† Dietaries.—See Appendix.

When the food has been passed down the gullet, and has reached the stomach, it lodges in its left or larger extremity. As soon as the lining membrane of the organ feels the contact of nutriment, it becomes reddened, there is evidently increased flow of blood to it, and quickly, its peculiar secretion, the "gastric juice," or solvent fluid of the stomach, begins to be poured out. This fluid is "clear, transparent, and viscid, without smell, slightly saltish, and very perceptibly acid," its characteristic power being that of dissolving the chief components of the food, and reducing the varied ingredients of a common meal to one homogeneous, grey-looking, pulpy, acid mass, which is called the "chyme." This uniform mass, when formed, varies but slightly in perceptible character; when the food has been farinaceous, it is like gruel, but when much oily or fat nutriment is mixed with it, it has more of a creamy appearance.

The solution of the food, and its formation into chyme by the powers of the gastric juice, is much assisted by the muscular movements—alternate contractions and relaxations—of the stomach, which turn the mass over and over, and thoroughly incorporate it with the solvent fluid. When the chyme is fully formed, it is probable that the gelatine components of the food have been dissolved, and what are called its albuminous components, such as the curd of milk, or cheese, or the muscular flesh of meat, or the gluten of grain, have for the most part been reduced to the condition of a soluble albumen, fitted for absorption into the system. The action of the acid gastric juice, however, puts a stop to the conversion of the starchy ingredients of the food, into sugar, by the saliva; but this is resumed in the small intestines, when the acidity of the chyme has been neutralized by the alkalinity of the bile and juice of the pancreas or sweetbread, with which it becomes mingled, immediately after it passes or is passed through the opening at the right or smaller extremity of the stomach, into the duodenum, or first portion of the small intestines. This passage of the chyme from the stomach into the intestines, is effected as each successive portion is perfectly formed, that is, has become of semi-fluid, perfectly smooth consistence; for in a healthy condition of the digestive organs, should a portion of solid food attempt to pass the muscular valve at the "pylorus," or place of exit, it is immediately closed against it, and the morsel passed back into the stomach. As already mentioned, the chyme has no sooner passed from the stomach into the small intestines, than it becomes mingled with the bile, which is continually distilling into them from the liver, and with the juice from the pancreas or sweetbread. The effect of this admixture is to neutralize the acidity of the chyme. The action of the saliva in converting the starchy matters into sugar is now resumed, and is probably assisted by the fluid from the pancreas, and the oily principles of the food are converted into a milky-looking emulsion, in which state they are fit for absorption into the system. The digested and altered food mass is now passed slowly through the small intestines by their muscular, "vermicular," or wave-like movements; during this passage, the nutrient portions are absorbed, partly by the blood vessels, and partly—more particularly the oily emulsion portion—by the lacteal absorbent vessels, until the now almost exhausted food reaching the valve-like opening into the large bowel, or colon, is discharged into it. Here the food mass again becomes acid, and this change is supposed by some, and not improbably so, to be of the nature of a second digestion, to ensure the perfect solution of any matters which may have escaped the first acid digestion in the stomach. A more striking change, however, is effected, for here the contents of the bowels assume their natural fæcal or excrementitious character, and acquire their characteristic odour from being mingled with used-up matters thrown out or excreted from the system at large, from the small glands with which the lining membrane of the large bowel is studded. The absorption of the nutrient matters from the chyme requires a little explanation.

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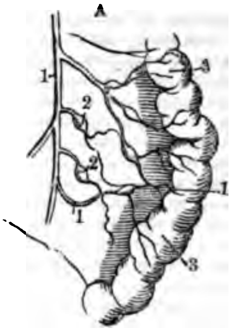
* One of the African barbarian despots has been said to administer drink to his subjects—as an honour conferred—whilst they were placed head downwards.

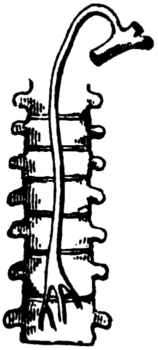
The process is now considered to be largely shared in by the blood vessels, but much of it is doubtless effected by the lacteal vessels, which, indeed, were at one time considered to be the sole agents for the purpose. These little vessels—fig. A, 1—are abundantly distributed over the small intestines—fig. A, 3. The lining membrane of this portion of the alimentary canal is thrown into folds for the purpose of increasing the surface for absorption, and this lining membrane has a velvety appearance, from innumerable small elevated points, or "villi," which cover it—each of these villi contains a small lacteal vessel. These vessels were formerly thought to absorb the nutrient portion of the food or "chyle" by means of open mouths, but it is now

A



ascertained that the absorption is eff
in the first place by minute cells,
burst, when full, and deliver up thei
tents to the lacteal twigs in contact
them. By the lacteals, the "chyle
milky-looking fluid absorbed from th
testines, is conveyed through a set of
glands—the mesenteric—fig. A, 2—
passing through which, the chyle,
extract from dead food, seems—i
may so speak—to become in some d
vitalized; it acquires power of coagul
and assumes a red tinge when expos
the air. The chyle from the various sm
lacteal vessels is now collected in the l
trunks, which coalesce at one point,
form one main vessel, the "thoracic d
—fig. B—which runs up and lies close

B



the spine, till, arriving at the neck, it
down and opens to discharge its con

into the general current of the circulation at the junction of the large veins of the head and neck with that from the arm.

Such is the marvellous process by which man's material body is daily nourished, and its strength preserved and renewed; such, at least, is the healthy process, as it ought to be: the most generally prevalent causes of its disorder, and they are very general and very prevalent, it remains now to point out. Of course the nature of the food must exert great influence, for good or evil, over digestion; but as that will be fully discussed under the article *Food*, it need not be entered into here.

One of the most frequent causes of disorder of the digestive function is insufficient mastication, either from want of teeth, from a habit of hurried eating, or from carelessness; many persons but half, or indeed scarcely at all, chew their food, which is swallowed in lumps, and of course, not being broken down, is unmixed with the due proportion of saliva. Fortunately, the solvent powers of the gastric juice are sufficiently active to compensate in the course of time for the imperfect performance of the first of the digestive operations; but it must be evident to all, how much longer and more laborious the process must be of dissolving a solid lump of meat or potato, than of one well broken up and opened up to the operations of the gastric juice; it must also be evident, that in the case of farinaceous and vegetable food, insufficient admixture of saliva must occasion insufficient digestion, or conversion of the starchy matter into sugar, and that, therefore, a portion of the food consumed may become useless.*

Another evil resulting from imperfect mastication, is the rapidity with which food is introduced into the stomach, so that, probably, the organ is over-loaded before the natural sensation of appeased hunger can make itself felt.

Many persons, again, hurry over their meals, with minds intently engaged on something else; the food is swallowed as quickly as possible, and the scarcely interrupted mental effort or business anxiety is resumed; or it may be active exertion at once engaged in. Now, it is a law of the animal economy, that all the functions of the living body, and those which are only periodically called into exercise more than others, require, for their perfect performance, some additional access of nervous power, and some increase in their usual supply of blood, whilst the peculiar function is in active operation. With the stomach this is peculiarly the case; the disinclination for exertion, and the slight sensation of cold which generally follow a full meal, are the results of the call made upon the nervous energies, and upon the circulating blood, by the stomach, during the first stages of digestion. These sensations are more felt if the individual remains quiet after a meal, less so or not at all, if active exertion, either of mind or body, is at once engaged in, and the reason for this is evident; in the first instance, the person who remains quiet, permits the nervous power and the blood to be, as they ought, directed to the performance of the digestive function, and, consequently, their supply to the other portions of the body being diminished, incapacity for exertion, both of mind and body, is experienced; if, however, before the nervous and circulating energies have become fully directed towards the stomach, (or, indeed, if after they have, exertion is made by a strong effort of the will,) they are attracted by a still stronger power, either of muscular movement or mental exercise, the inclination for rest is not experienced; but this is attained at the expense of the stomach and of its digestive powers, the food is more slowly and perhaps imperfectly, digested. It is true that many persons go on for a great length of time, without apparent bad results, violating the laws of their own constitution, snatching hurried meals, and running off to business, or study, or exertion, immediately after; but the practice tells, in the course of time, and the extreme prevalence of disorder of the digestive organs, amid the commercial and professional classes in this country, is evidence sufficient of the hurtful tendency of such practices. There is, of course, much variation in the injury which the digestive powers sustain, for some have these naturally much more active than others, and can with much more impunity impose upon them, but, as a general rule, moderate rest, both of body and mind, is requisite for a short period after a full meal has been taken, to ensure the perfection and the *continued healthy operation of the digestive powers*. If exertion is *requisite*, the meal should be made a light one, and the full supply of food delayed till rest can be taken. Somewhat similar consequences and enfeeblement of the function of digestion, are apt to occur if an individual makes a hearty meal when in a state of fatigue or exhaustion from exertion previous to the taking food, even though quiet is observed after it; the nervous power being exhausted, cannot be sufficiently supplied to the stomach to support its efficient action.

Another frequent cause of disordered

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* DIGESTION.—A useful little machine, known as "Nye's Small Mincer for the dinner table," has lately been introduced, "*for mincing the food of invalids, aged persons, and sufferers from weak digestion.*" It is worthy the attention of all such, and the price is moderate.

digestion, is excess of food, either at once, or by its too frequent repetition. It would seem that the healthy digestive power, and secretion of the gastric juice, is dependent in some degree upon the requirements of the system, and as the gastric juice can only dissolve a certain proportionate quantity of aliment, if more is taken than there is gastric juice to act upon it, it must be imperfectly or not all digested, and if it is not, it becomes subject to the same chemical laws as if exposed to heat and moisture out of the living body; fermentation, and, it may be, putrefaction, take place; gas—"wind"—is generated, acids are formed both in the aliment itself, and thrown out, probably by the efforts of the irritated stomach, and heart-burn, pain, and the many other uneasy sensations connected with indigestion are developed. Many of the causes of indigestion are undoubtedly traceable to other sources, but the consideration of those will be taken up in the article devoted to the subject. The digestive power of the stomach is remarkably interfered with, or even negatived, in many diseases, especially those of an acute or febrile character; it seems to lose almost entirely its power of secreting the gastric juice, and with it, of course, all power of digesting; if food is put into it, it is unacted upon, and is probably vomited after many hours, almost unchanged. There can be no question that this instinctive sympathy, as we may call it, of the stomach with the constitution at large, is wisely intended to prevent nutriment being introduced into the system, and into the blood, when it would, either, only tend to embarrass the curative powers of nature, or to aggravate the disease.

From the review now taken of the nature of the process of digestion, and of the more general causes of its disorder, the reader must have been made *rationally* aware of the necessity and reasons for attending to these requirements, which have been pointed out as imperative, for the immediate proper performance, or for the continued health of the function. The food *must* be prepared for the stomach in the mouth, and the stomach must not have the nervous energy and blood supply, requisite for the important office it performs for the system at large, abstracted from it by unseasonable exertion. The food must, too, be proportioned to the wants of the system. If a man will be sedentary, if he will not use up his blood, his muscle and nerve, in active exertion, he must not expect to enjoy food like one who does; he may eat the food, and, if he possess naturally strong digestive powers, his stomach may dispose of it without giving him much inconvenience; but when the excess of nutriment reaches the blood, it must either be deposited as fat—itself, when in excess, a disease—or it must be developed in the poison of gout, gravel, or biliary or other disorders.

Hitherto, the processes of the first or primary digestion have been considered, being the changes of the food from its introduction into the mouth, to the discharge of its refuse on the one hand, and the passage of its nutrient materials into the blood on the other. Physiologists, however, recognise a secondary digestion, embracing the changes undergone by the blood and tissues in the performance of the various functions of the living body, and the final discharge of their components after they have fulfilled their offices. As the consideration of these changes is entered into in various articles, such as "Animal Heat," "Nutrition," "Respiration," "Motor Change," &c., it is unnecessary to pursue it further in this place.

It may, perhaps, have puzzled the unprofessional reader, that at times the digestive operations have been alluded to as if they had actually been witnessed by the eye, and such is the fact; for it happened that, between twenty and thirty years ago, an American physician—Dr. Beaumont—enjoyed the rare opportunity of experimenting upon, and witnessing with his eyes, the results of his experiments upon the healthy stomach of a living healthy man.

The subject of Dr. Beaumont's experiments was Alexis St. Martin, a young Canadian of good constitution and robust health, who was accidentally wounded by the discharge of a musket, which carried away a portion of the skin and muscles covering the stomach, and perforated the organ: by good treatment, St. Martin recovered from the injury, but the opening into the stomach never closed. The case coming under the notice of Dr. Beaumont, he, fortunately for science, availed himself most fully and intelligently of the unique opportunity it afforded, and, by numerous well-conducted and accurately-recorded experiments, he cast light upon many unascertained points connected with the process of digestion, to some of which allusion will be made in future articles, particularly in that upon food. Those who wish further information respecting the case will find all its details in Dr. Beaumont's work, re-edited in this country by the late Dr. Andrew Combe.

Refer to—*Absorbents—Alimentary Canal—Chyle—Food—Indigestion, &c.*[*]

DIGITALIS, or FOX-GLOVE,—is well

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[*] DIGESTION.—See Appendix, article "Banting System."

known, and one of the handsomest of our native plants. It is biennial, that is, the first year a tuft of leaves only is formed, and the flowers do not appear till the second summer. About the middle of June, the wand-like stem, rising from two to four feet high from the centre of the root leaves, begins to expand its purple blossoms, resembling in some degree, in shape, the finger of a glove, from which resemblance the plant is named.

Digitalis is a very powerful medicine, and, except in skilled and careful hands, a dangerous one, and can never be employed with propriety as a domestic remedy, although in Ireland it is used by the peasantry for the cure of epilepsy.

Fox-glove acts powerfully upon the kidneys in many cases, but its most marked, and, at the same time, most dangerous property, is that which it possesses of depressing the action of the heart, the hazard being increased from the tendency of the medicine to accumulate in the system, and suddenly to develope its depressing or poisonous effects. There are but few cases of direct poisoning by fox-glove recorded, but accidents sometimes happen from the incautious administration of it as a medicine; in these cases, great languor and depression of the action of the heart, yawning, giddiness, nausea, and a sense of anxiety are the usual symptoms. The best antidotes would be wine or brandy, small doses of opium, ammonia, and strong infusion of green tea.[*]

DILL, or **Dill-Seed**—is the fruit of an umbelliferous plant, the *Anethum Graveolens*. It is a native of South Europe, but is cultivated in Britain. The distilled water or "dill water" is one of our best carminatives for infants, in one or two tea-spoonful doses, either alone or combined with magnesia or chalk.[†]

DILUENTS—are agents used medicinally for diluting the fluids of the body, and in many diseases their employment is a subject of much practical importance. In most cases, either in health or disease, the necessity for the use of diluents is made known by the occurrence of thirst. This sensation, which is perceived in the mouth and throat principally, is evidently only felt from sympathy with the body generally, for it is not relieved by the mere moistening of these parts, but only by a supply of fluid afforded to the system at large, either, as in most cases, by the stomach, or through the medium of the skin. Diluents may, however, be very serviceable in the treatment of some diseases when thirst is not felt, as in gravel; they are much more largely used, and perhaps abused, as medicinal agents, on the continent, than they are in this country. Many reputed mineral waters act most beneficially by their diluting effects; under the hydropathic system, the treatment is carried to a most unlimited, and often injurious extent.

There is no question, however, that the employment of diluents is too generally neglected in the treatment of disease in this country, although it is more resorted to now than formerly. Dr. Holland classes the beneficial action of diluents under three heads. First the dilution and washing away of excrementitious and morbid matter from the alimentary canal; secondly, as acting upon the blood by dilution; and thirdly, by influencing the various secretions and excretions of the body. Diluents, therefore, are useful in many affections of the stomach and bowels, in which their contents—as in bilious cholera—are acrid; in fever generally, and in those cases in which natural secretions and excretions, such as the urine, are diminished in quantity and irritating in quality. In health, a certain amount of fluid, or of diluent, is required periodically by the body to supply the waste continually going on by the discharge of vapour from the lungs and skin, and by the excretions from the kidneys and bowels. The amount must, of course, vary somewhat according to the conditions of the surrounding atmosphere as to temperature and dryness, and also according to the amount of exercise taken; a man making much active exertion, and perspiring profusely, requiring a much larger supply of diluent than one who is not. Stokers, iron-founders, and others who work hard under great heat, consume an almost incredible amount of fluid. The unnecessary use of diluents by persons in health, is undoubtedly hurtful, particularly when the amount is taken along with food; the gastric juice is thereby diluted too greatly, and its digestive powers impaired; moreover, persons who drink largely with their food, are apt to wash it down in a half masticated condition, and to take more than is necessary. A certain amount of dilution is, nevertheless, requisite for digestion, and error on this side also, is, undoubtedly, committed; but these are points connected with individual constitution which every man's sense and experience ought, as far as he himself is concerned, to determine better than another can do for him.

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[*] Digitalis.—The tincture of Digitalis has within the last few years been highly extolled as a remedy in delirium tremens; as, however, the doses are required to be very large, some consider dangerously large, it is not a medicine for unprofessional hands.

[†] Dill.—See article "Children," p. 105.

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digestion, is excess of food, either at once, or by its too frequent repetition. It would seem that the healthy digestive power, and secretion of the gastric juice, is dependent in some degree upon the requirements of the system, and as the gastric juice can only dissolve a certain proportionate quantity of aliment, if more is taken than there is gastric juice to act upon it, it must be imperfectly or not all digested, and if it is not, it becomes subject to the same chemical laws as if exposed to heat and moisture out of the living body; fermentation, and, it may be, putrefaction, take place; gas—"wind"—is generated, acids are formed both in the aliment itself, and thrown out, probably by the efforts of the irritated stomach, and heart-burn, pain, and the many other uneasy sensations connected with indigestion are developed. Many of the causes of indigestion are undoubtedly traceable to other sources, but the consideration of those will be taken up in the article devoted to the subject. The digestive power of the stomach is remarkably interfered with, or even negatived, in many diseases, especially those of an acute or febrile character; it seems to lose almost entirely its power of secreting the gastric juice, and with it, of course, all power of digesting; if food is put into it, it is unacted upon, and is probably vomited after many hours, almost unchanged. There can be no question that this instinctive sympathy, as we may call it, of the stomach with the constitution at large, is wisely intended to prevent nutriment being introduced into the system, and into the blood, when it would, either, only tend to embarrass the curative powers of nature, or to aggravate the disease.

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* Digitalis.—The tincture of Digitalis has within the last few years been highly extolled as a remedy in delirium tremens; as, however, the doses are required to be very large, some consider dangerously large, it is not a medicine for unprofessional hands.

† Dill.—See article "Children," p. 105.

From the review now taken of the nature of the process of digestion, and of the more general causes of its disorder, the reader must have been made *rationally* aware of the necessity and reasons for attending to these requirements, which have been pointed out as imperative, for the immediate proper performance, or for the continued health of the function. The food *must* be prepared for the stomach in the mouth, and the stomach must not have the nervous energy and blood supply, requisite for the important office it performs for the system at large, abstracted from it by unseasonable exertion. The food must, too, be proportioned to the wants of the system. If a man will be sedentary, if he will not use up his blood, his muscle and nerve, in active exertion, he must not expect to enjoy food like one who does; he may eat the food, and, if he possess naturally strong digestive
powers, his stomach may dispose of it
out giving him much inconvenience
when the excess of nutriment reach
blood, it must either be deposited
itself, when in excess, a disease—or i
be developed in the poison of gout,
or biliary or other disorders.

Hitherto, the processes of the first
mary digestion have been considered,
the changes of the food from its int
tion into the mouth, to the discharge
refuse on the one hand, and the pass
its nutrient materials into the blood
other. Physiologists, however, recog
secondary digestion, embracing the c
undergone by the blood and tissues
performance of the various functions
living body, and the final discharge o
components after they have fulfilled
offices. As the consideration of these c
is entered into in various articles, s
"Animal Heat," "Nutrition," "R
tion," "Motor Change," &c., it is un
sary to pursue it further in this place

It may, perhaps, have puzzled the
fessional reader, that at times the di
operations have been alluded to as i
had actually been witnessed by th
and such is the fact; for it happene
between twenty and thirty years a
American physician—Dr. Beaumon
joyed the rare opportunity of experim
upon, and witnessing with his eye
results of his experiments upon the h
stomach of a living healthy man.

The subject of Dr. Beaumont's e
ments was Alexis St. Martin, a
Canadian of good constitution and
health, who was accidentally wound
the discharge of a musket, which
away a portion of the skin and m
covering the stomach, and perforat
organ: by good treatment, St. Mar
covered from the injury, but the o
into the stomach never closed. Th
coming under the notice of Dr. Bea
he, fortunately for science, availed h
most fully and intelligently of the
opportunity it afforded, and, by nu
well-conducted and accurately-re
experiments, he cast light upon ma
ascertained points connected with th
cess of digestion, to some of which a
will be made in future articles, parti
in that upon food. Those who wish
information respecting the case will
its details in Dr. Beaumont's wor
edited in this country by the la
Andrew Combe.

Refer to—*Absorbents—Alimentary*
*—Chyle—Food—Indigestion, &c.**

DIGITALIS, or FOX-GLOVE, —i

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* DIGESTION.—See Appendix, article "Banting System."

known, and one of the handsomest of our native plants. It is biennial, that is, the first year a tuft of leaves only is formed, and the flowers do not appear till the second summer. About the middle of June, the wand-like stem, rising from two to four feet high from the centre of the root leaves, begins to expand its purple blossoms, resembling in some degree, in shape, the finger of a glove, from which resemblance the plant is named.

Digitalis is a very powerful medicine, and, except in skilled and careful hands, a dangerous one, and can never be employed with propriety as a domestic remedy, although in Ireland it is used by the peasantry for the cure of epilepsy.

Fox-glove acts powerfully upon the kidneys in many cases, but its most marked, and, at the same time, most dangerous property, is that which it possesses of depressing the action of the heart, the hazard being increased from the tendency of the medicine to accumulate in the system, and suddenly to develope its depressing or poisonous effects. There are but few cases of direct poisoning by fox-glove recorded, but accidents sometimes happen from the incautious administration of it as a medicine; in these cases, great languor and depression of the action of the heart, yawning, giddiness, nausea, and a sense of anxiety are the usual symptoms. The best antidotes would be wine or brandy, small doses of opium, ammonia, and strong infusion of green tea.[*]

DILL, or Dill-Seed—is the fruit of an umbelliferous plant, the *Anēthum Graveolens*. It is a native of South Europe, but is cultivated in Britain. The distilled water or "dill water" is one of our best carminatives for infants, in one or two tea-spoonful doses, either alone or combined with magnesia or chalk.[†]

DILUENTS—are agents used medicinally for diluting the fluids of the body, and in many diseases their employment is a subject of much practical importance. In most cases, either in health or disease, the necessity for the use of diluents is made known by the occurrence of thirst. This sensation, which is perceived in the mouth and throat principally, is evidently only felt from sympathy with the body generally, for it is not relieved by the mere moistening of these parts, but only by a supply of fluid afforded to the system at large, either, as in most cases, by the stomach, or through the medium of the skin. Diluents may, however, be very serviceable in the treatment of some diseases when thirst is not felt, as in gravel; they are much more largely used, and perhaps abused, as medicinal agents, on the continent, than they are in this country. Many reputed mineral waters act most beneficially by their diluting effects; under the hydropathic system, the treatment is carried to a most unlimited, and often injurious extent.

There is no question, however, that the employment of diluents is too generally neglected in the treatment of disease in this country, although it is more resorted to now than formerly. Dr. Holland classes the beneficial action of diluents under three heads. First the dilution and washing away of excrementitious and morbid matter from the alimentary canal; secondly, as acting upon the blood by dilution; and thirdly, by influencing the various secretions and excretions of the body. Diluents, therefore, are useful in many affections of the stomach and bowels, in which their contents—as in bilious cholera—are acrid; in fever generally, and in those cases in which natural secretions and excretions, such as the urine, are diminished in quantity and irritating in quality. In health, a certain amount of fluid, or of diluent, is required periodically by the body to supply the waste continually going on by the discharge of vapour from the lungs and skin, and by the excretions from the kidneys and bowels. The amount must, of course, vary somewhat according to the conditions of the surrounding atmosphere as to temperature and dryness, and also according to the amount of exercise taken; a man making much active exertion, and perspiring profusely, requiring a much larger supply of diluent than one who is not. Stokers, iron-founders, and others who work hard under great heat, consume an almost incredible amount of fluid. The unnecessary use of diluents by persons in health, is undoubtedly hurtful, particularly when the amount is taken along with food; the gastric juice is thereby diluted too greatly, and its digestive powers impaired; moreover, persons who drink largely with their food, are apt to wash it down in a half masticated condition, and to take more than is necessary. A certain amount of dilution is, nevertheless, requisite for digestion, and error on this side also, is, undoubtedly, committed; but these are points connected with individual constitution which every man's sense and experience ought, as far as he himself is concerned, to determine better than another can do for him.

All dilution must, of course, be due to water, and the various forms of diluents used in illness are but varied modes of administering the pure element disguised. In many cases this is too largely practised, and

patients, very commonly, after having gone the round of the various artificial drinks, are found to prefer, and to adhere to the simple water as their most grateful and only drink. How often does the child with fever ask for "water from the pump" in preference to everything else.

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[*] Digitalis.—The tincture of Digitalis has within the last few years been highly extolled as a remedy in delirium tremens; as, however, the doses are required to be very large, some consider dangerously large, it is not a medicine for unprofessional hands.

[†] Dill.—See article "Children," p. 105.

Water may be used as a diluent in its purest condition, that of distilled water, or rain water, or as procured from the various sources of spring, well, river, or lake, in which cases it is more or less impregnated with foreign matters. Its temperature may be modified, for it may be used either ice cold, or tepid, or warm; or it may be administered in the form of some of the artificial drinks, such as toast-water, barley-water, thin gruel, or, as on the continent, as ptisan of various kinds. Weak tea is a common and favourite diluent with many. But diluents are not necessarily unstimulating, though most generally so; as a dietetic diluent, beer, or wine, or spirit and water, may be more serviceable than the simpler forms, and the same may be the case on occasion, where there is intense thirst, along with nervous exhaustion. Persons who have become exhausted by severe labour, having at the same time been exposed to heat, may often with greater benefit and safety take a small quantity of slightly stimulating diluent, than a larger, or even the same amount of plain water. This must not be understood as a recommendation of stimulants under circumstances of ordinary labour, but as applying to cases of *exhaustion*, and even in these the stimulant must be in very moderate proportion.

The instinctive desire for fluid in cholera, and in diseases generally which are attended with fever, ought not to be neglected. There appears to be almost a superstitious fear with many, particularly of the poorer classes, of allowing the sick to "drink cold water," and many a sufferer regards most gratefully the unlimited permission of the medical attendant to take it freely, after it had perhaps been begged for, but withheld by mistaken friends. There are few safer prescriptions, none perhaps which may be more freely carried out by unprofessional persons, than the unrestricted allowance of simple, unstimulating drink, in all acute diseases in which thirst exists, and especially if fever be present.

As mentioned in the first part of this article, diluents may be administered through the medium of the skin, and thirst and distress allayed in this way, when the power of swallowing is impaired, or lost either temporarily or permanently, or when the only diluent at command, such as sea-water, is unfit for drinking. Diluents may also be administered by injection into the bowels.

Refer to — *Cold — Cookery — Heat — Thirst — Water, &c.*

DINNER—is *the* meal of the twenty-four hours, the principal occasion on which the daily waste of the body is restored by food. At dinner, for the most part, the articles either of food or drink taken, are stronger and more stimulating than at any other meal, consequently its disposal makes the greatest demand upon the digestive powers. It matters not that what some persons call dinner, others would call supper, for by the designation is here meant the principal meal of the day. The regulation of the meal as to time and circumstances, often requires more attention and care, in relation to health, than is bestowed upon it, either by medical men or the public. In more primitive times, and where primitive habits prevail at the present day, the timing of this principal meal, must obviously be very different from what it should be when taken in connexion with the habits and modes of life of many in this country, particularly in our large cities. When persons, such as those engaged in country and agricultural work, rise very early, breakfast early, and are engaged in active muscular exertion in the open air, there can be no question, that by the time of noon, the system is ready for, and requires a full supply of good nourishment; and the powers of digestion are fully equal to the task, even though the interval of rest be not very great, and that, further, half-a-dozen hours' work afterwards, pave the way for another substantial meal; such being the case with our agriculturists, the healthiest and strongest, probably, of our population, and people seeing this, have jumped somewhat hastily to the conclusion that the early dinner is the secret of health, forgetting the other accessories of fresh air and exercise, and in the case of the labourer, not over active minds. The case of mechanics and artizans generally, who begin the day early, is nearly, but not quite similar to that of the labourer; they require a good meal tolerably early in the day, but not having the advantage in many cases of the fresh air of the agriculturist, many of them might with advantage divide the meals a little more equally, diminish the dinner, and add to the meal made after work is concluded, more particularly when the dinner hour is short, or shortened by the necessity of walking home from the place of employment to the meal.

When the case of the higher classes

considered, it must be evident how completely the time for their principal meal must be altered by circumstances; beginning the day, for the most part, some hours later than the operatives, making, generally, much less physical exertion, and working the head more, there is not the necessity for the principal meal being early in the day; moreover, the employments generally of the class in question, being more of the mind than of the body, and often of an anxious and thought-engrossing nature, they cannot in the midst of them cast loose the mind, or place it in the same careless ease as the physical labourer can do, consequently the digestive powers are interfered with. If these observations are taken in connexion with those upon "Digestion," in the article devoted to that subject, their force will be seen. From them the following deductions may be drawn, that although those engaged in physical exertion, either of business or pleasure, particularly if early hours are observed generally, require and ought to have the principal meal of the day early; those engaged in occupations of mental rather than of bodily exertion, ought to delay it till the necessity for the mental stretch is passed over. This subject has been more dwelt upon, from its so frequently being the case, that early dining is prescribed in cases of stomach disorder as a sort of panacea, which it does not prove. It is not counselled that the dinner hour should be thrown too late in the evening, probably six o'clock should be the limit, but it is far better that it should be late, than interpolated in the midst of the turmoil and anxieties of business, or mental strain of study. It is objected that a late dinner involves either too long an interval between breakfast and dinner, or a luncheon. This is matter of constitution simply; some persons of good constitutional powers, who can make a substantial breakfast between eight and nine in the morning, do not require, and indeed are better without food between that meal and a five or six o'clock dinner; those who cannot take so much at a time, are much more likely to do well with a light luncheon, *not a meat one*, in the midst of their work, than with a heavy meal, as even the lightest dinner must be. It is no real objection against a late dinner, that its being made after work, induces people to indulge in the pleasures of the table more than if they dined early; abuse will neutralise the good of anything, however beneficial, but it is not an argument against its use. Further, there are undoubtedly invalids, and certain impaired states of health, in which an early hour for dinner is found beneficial, but these must be cases in which either the state of health, or circumstances, require or permit *all* arrangements to be made conformable to the one object—health. An early dinner almost certainly involves supper of some kind, and this may or may not be an objection according to circumstances.

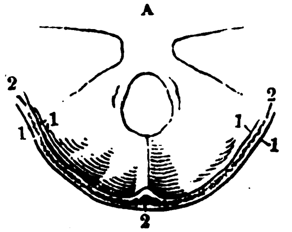
Undoubtedly, modern habits and luxury tend frequently to make even this principal meal, a much too abundant one, chiefly by tempting the appetite with a variety of food, and it is impossible to lay down any set rules on this head beyond that which every rational man must be well aware of, that none can perseveringly transgress the bounds of temperance, either in eating or drinking, without sooner or later disease being the result.

Sleeping after dinner may suit a few persons, but it is not advisable for those of full habit of body. For the reasons already mentioned, the time immediately succeeding dinner should be one of easy relaxation, to the man of mental toil in particular. The use of wine, beer, or any stimulant falls of course to be considered under the other articles more directly bearing on these subjects. A cup of coffee is sometimes taken shortly after dinner; opinions differ as to the propriety or not of the practice; it will probably be found to be best regulated by individual experience; the practice, however, of taking tea or coffee two or three hours after the meal is unquestionably a serviceable one amid the usages of civilized life, and assists the perfection of the latter stages of digestion. These diluents, however, ought not to be taken too strong, or too late in the evening, otherwise their effect upon the nervous system will interfere with sleep.

Some individuals of weak digestive powers are in the habit of taking a "dinner pill," for the purpose either of exciting the appetite, of stimulating the digestion, or of both. As a habit, the practice is bad, because it must be a substitute for more efficient and permanent means of improving appetite and digestion; occasionally, however, in some cases the dinner pill is useful as a temporary remedy. Eighteen grains of compound rhubarb pill, six grains of cayenne pepper, and twelve grains of extract of gentian, made up into twelve pills, of which one or two may be taken a quarter of an hour before dinner, will be found useful. The practice of taking spirits, or stimulant cordials or bitters before dinner, is highly injurious to the stomach, exhausting and irritating in a way that must interfere with digestion. A draught of cold water is a much better preparative; with persons of very weak powers, however, cold water, either before or during the meal, depresses too much.*

Refer to—*Digestion—Food—Stimulants,* &c.

†**DIPLÖE** is the name given by anatomists to the more cellular or porous portion of bone—fig. A, 2.—which intervenes between the more condensed and solid, but thinner, outer and inner "tables," or plates —fig. A, 1, 1.—of the skull.



Refer to—*Skull.*

DIPSO-MANIA is a state when habits of intemperance have reached such a height, that the unfortunate victim becomes partly insane, or at least so much so, as to lose all self-control on the one point, and to become affected with the species of monomania to which the term "dipso-mania," has been applied. Sir Alexander Morrison describes it as a "morbid craving for drink which generally occurs at intervals, in which persons are seized with an irresistible propensity to drink to excess, although conscious at the time of their misconduct, but are unable to control themselves."‡

Refer to—*Delirium Tremens—Intoxication—Stimulants, &c.*

DISCHARGE, used as a medical term generally, means anything cast out from the body; it is often applied, however, in a more restricted sense, to the excretion of purulent matter solely.

DISEASE is any departure from the naturally healthy actions of the system at large, or of any structure or organ in particular. The divisions and subdivisions of diseases generally according to their nature, causes, &c., are very numerous. A distinction is made into organic and functional diseases, the former being such as are accompanied with perceptible and appreciable change from the natural structure or composition of any component of the body, the latter those in which the actions are not
healthy, but in which, as far as presen
means of investigation go, no appreciabl
departure from the ordinary structure ca
be detected. As, however, it may be doubte
whether disordered action can take plac
without change of structure, temporary o
permanent, its non-detection is probabl
owing to the deficiency of our presen
means of investigation; and, indeed, chemi
cal analysis, and the use of the microscope
have demonstrated, and are daily demon
strating, the nature and tendencies of man
alterations in the composition and structur
of the bodily constituents which had pre
viously escaped notice.

Perfect health consists in the uninter
rupted action, and perfect balance of all th
functions of the body—this involving o
course perfection of structure; the slighte
pain or ache must be indicative of a hitc
somewhere in the machinery. In this view
perhaps none are free from disease for
day, for few can boast of such perfect un
deviating health as to pass four-and-twent
hours without some slight twinge of pain
without some ache or weariness to remin
them that their bodies are mortal; an
from this slightest passing uneasiness, t
the confirmed and fatal malady, diseas
passes through every gradation. Many o
the most painful and deadly disorders ar
not more felt at their commencement tha
as a slight sense of discomfort, and perhap
numberless of the lesser pains felt durin
what is considered health, might pass o
to real disease, were it not for the natura
tendency to cure with which our bodies ar
endowed; that which is called the "*vi*
medicatrix naturæ;" the same tendenc
which restores the fractured bone to sound
ness, and heals the wound. There can b
no question, that, but for this tendenc
towards health, this power of resistin
and casting off disease, our bodies woul
quickly succumb to the innumerable cause
of disorder to which they are hourly ex
posed. This power of resisting disease i
without doubt much greater in some per
sons than others, and even in the same per
son at different times, often without an
perceptible reason why it should be so
The power of the system in casting off dis
ease, when forming or formed, is for th
most part more plainly exercised, but o
this more will be said hereafter.

Again, it must be remembered, that con
stitution and other causes occasion so muc
variation in the actions of the body, tha
what would be disease in one man, is health
in another. For instance, one man's pulse
may average sixty in a minute, another's
eighty; and it is certain, that the forme

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* Many persons find that a glass of warm water agrees better than cold, and it is certainly quite as efficacious in assuaging thirst.

† Diphtheria, see Appendix for article upon.

‡ For additional information upon this disease, which is assuming new importance every day, see Appendix.

could not rise to the level of the latter, or the latter sink to that of the former, without disease or disorder being present. Such considerations are important in judging of the real state of a person labouring under disease; to judge accurately of disorder, we *must* know the whereabouts of the level of health, and in this consists the great advantage of the regular medical attendant over one who is casually consulted, and who first sees the patient when suffering under illness. In popular language, the regular attendant "knows the constitution" of his patient; the other has it in many respects to learn. But if there is a tendency towards health, there is also a tendency, more or less, towards certain forms of disease, existing with every one, this tendency being either hereditary or acquired. The power of hereditary tendency towards certain forms of disease, such as scrofula and consumption, gout, gravel, and rheumatism, paralysis, &c., is so generally recognized as to be a matter of popular information, that is to say, when these diseases have affected parents, or relatives of parents, they are regarded as hereditary in descendants; there is, however, a hereditary predisposition not so apparent, which requires more notice than it receives, it is that which devolves upon children in consequence of the habits, &c., of the parents. The latter may be of healthy families, but if there has existed much inequality of age—especially if the father has been advanced in years, or if marriage has been contracted too early in life, or if either parents have lowered the standard of health by dissipation or by any other means, their sins, in obedience to those laws which the Almighty has connected with our being, are visited upon the children, in tendencies to certain diseases. The offspring of drunkards are very frequently the subjects of affection of the brain and nervous system; the child of the woman who gives way to indolence, or indulges in undue excitements, will in all probability fall below the standard of health. Tendency to disease may also be given in persons previously healthy, by whatever lowers their own standard of health. Dissipation of any kind, deficient food or supply of pure air, exhaustion from whatever cause, depressing passions of the mind, &c., all give that tendency to disease which renders the constitution more susceptible of its attacks. Even the time of day exerts some influence, for it is well known that a person is much more liable to become affected with any malady, either of a contagious or malarious character, such as ague, if exposed to its influences in the early morning, before the powers of the constitution have been invigorated with food, especially with that, such as warm tea or coffee, which affords the gentle stimulation of heat. Further, individuals are never so liable to succumb to disease as they are during the stage of depression succeeding a debauch. Every day adds to our experience of the way in which the ill-ventilated and badly-drained dwelling gives the tendency to fever and to cholera, whilst at the same time it fosters their deadly germs into activity. Lastly, nothing predisposes more to disease, or increases the tendency to it, than the depressing passions, such as fear, despondency, &c Those who give way to dread of taking any malady, open the readiest door for its incursion, and even without the fear of the disease itself being the cause of the depression, the fact of the mind being depressed, increases greatly the susceptibility to any causes of disorder in active operation at the time. This is often strikingly exemplified in the case of troops; it is always observed that sickness is more prevalent among the men of a retreating and desponding army, than under the reverse circumstances. Perhaps, under no circumstances is the *worldly* advantage of a firm reliance upon Providence more palpable. than when that reliance sustains the mind in cheerfulness, hope, and resignation, resistants to disease which come to the aid of those who hold them, when other help seems to have vanished.

There is a kind of mixed tendency to disease, partly hereditary and partly excited by external circumstances: it is this from which the children born in India, and other hot climates, of English parents, suffer, particularly if the parents have been long resident. They cannot be retained in the clime of their birth, without the greatest risk to life before the age of puberty is attained.

Most of those causes which give a tendency to disease, also, in themselves, when acting with increased intensity, tend to produce it, or to aggravate it when existing. The influences of climate, of air, whether pure or impure; of food, whether deficient in quantity or quality; of occupation, of habits, or mental influences, are all powerful excitants of disease. The remittent fevers of the tropics, and the typhus of Britain, the scrofula, the rickets and cutaneous eruptions, the consumption of the metal grinders, the delirium of the drunkard, are all instances which might be multiplied, of diseases produced by external influences. The *diarrhœa* of fear, the nostalgia or home sickness — which is actually accompanied with disease in the lungs—of the Highlander or of the Swiss; the diseases of the heart which result from the agitation of political or commercial excitement, are all examples of the production of disease by the internal agency of the mind.

When disease has established itself in the constitution, were it not for the "tendency to health," it must run on to a fatal termination; the wound would remain unhealed, the inflammation would extend, or its effects remain unrepaired, were it not for these curative powers existing in the constitution itself. If, then, whatever tends to lower the standard of health, favours the inroads of disease, so the preservation of that standard, as far as may be consistent with the safety of the patient, and the reduction of his malady, ensures a more certain and speedy throwing off of the effects of the disorder, or in one word—convalescence. Patients who have been profusely bled are often very long in recovering, and during the period of recovery are liable to relapse, and to be attacked by other forms of disease.

Moreover, during the progress of disease, nothing assists more the powers of the constitution, which tend towards health, and to throw off the enemy, than a cheerful and hopeful mind; as the people call it, a "good spirit;" it may make all the difference between recovery or the reverse; indeed every medical man must have met with cases of illness, in which the patient seemed as it were resolved not to give in—seemed, even under unfavourable circumstances, determined not to die, if they could help it—and did not die; even when physical powers tended to death, the mind tended to life, and the mind succeeded. Were it not for the tendency to health, or to cure, existing in the body, our medicines would be in vain, and he is the best physician who can detect those tendencies to recovery, permit them to act when they seem strong enough, and assist them when they do not. The patient in the lowest stage of fever, still has the tendency to health existing, and acting within, and battling with the disease; the powers of a good constitution *may* of themselves be sufficient to conduct him over the crisis; but they may not, and unassisted, the patient must sink ere the tendency to throw off the disease gets the mastery; but the physician steps in, he gives his help to the constitution; his wine, and bark, and nourishment, and regulation of the functions, support the frame till the struggle is over, and the disease is vanquished. This power of throwing off disease, this tendency to health with whic the living body is endowed, requires t be impressed upon the mind of peopl generally, for they are too apt to attribut that to the action of medicine, which medicine only gives its assistance to, and t despise the simpler modes of treatmen which place the natural powers in the mos favourable position for curing. The vulga attribute the healing of the wound to th plaster which merely holds it together, an cold water is too simple to do good.

The aggravation of existing disease, bot by physical influences and mental emotion is one of the most serious enemies the physician has to contend with. The subjec is sufficiently entered into the variou articles of this work.

Lastly, disease is often established as secondary affection, it occurs in consequenc of some previously existing morbid condition of, or in, some part of the body Dropsy is a disease peculiarly of this class affection of the heart, liver, kidneys, o other disorders, all tending to produce it apoplexy may result from disease of th heart: in these cases, the secondary diseas appears simply a result, without benefici influence; but in many cases, it exerts tendency to remove the primary on and this fact is one of great importanc in the treatment of all disorders of th body, for rash interference with the natur effort may throw the diseased action bac upon the previously affected, or upon som more vital part. The healed-up ulcer, o cured (?) eruption, may occasion head disease, or the stopped diarrhœa may thro back upon the constitution, with serious o fatal effect, the blood poison of which th vital fluid was endeavouring to relieve itself. Even that alarming incident spittin of blood, though in itself a grave symptom may tend to relieve from worse evil. Thes efforts of the constitution, therefore, to ca off or cure disease, are to be cautious interfered with.

In the treatment of disease, two ver different methods have to be pursued; th one is that which exerts itself directly t cure by the direct action of certain medicines. Of this, the cure of ague, of neuralgia, and other periodical diseases, b quinine or iron, is an example; experienc has unfolded to us, that in these an similar cases, the medicine has the power o curing by some relation established betwee it and the disease, by the Author of al things, and in nothing is His mercy mor strikingly exemplified. But, why quinin should cure neuralgia, why opium shoul allay pain, we cannot tell, at least in th present state of our knowledge; the only approach to any explanation being one given by Liebig. The other method in the treatment of disease, is not so much of the active as of the expectant or passive character. There are many—perhaps the majority belong to this class—forms of disease, for which we know of no *cure*, such as quinine is to ague; the throwing off the malady must be by the natural powers, and our only resource consists in putting and keeping those natural powers in as favourable a state for this purpose as possible. Of this, many forms of fever are examples; we cannot hope to cure, we can only hope to pilot the body through the rocks and untoward currents which arise in the course of the disorder, to allay secondary diseases which show themselves, to alleviate painful symptoms, and to support the constitution. These facts should be made plain to the minds of unprofessional persons generally, for the most erroneous notions prevail upon the points just alluded to, and often lead to dissatisfaction with medical men. One who is content with guiding the course of a fever, either with the gentlest treatment, or with what people may consider no treatment at all, is looked upon as inefficient, whilst the busy meddler, who interferes without aim or object, and probably thwarts with uncalled-for medicine, the natural tendency to cure, is regarded as the "active"(?) practitioner.

The reference from this article must be to the work at large, for it bears upon the whole.

DISINFECTANTS are any agents which destroy the power or means of propagation of diseases which spread by infection or contagion. Purification of every kind, therefore, either by fresh air or by water, is disinfecting, these agents acting by dispersing or diluting the morbific germs, whatever these may be. A high temperature doubtless acts as a disinfectant, by destroying their chemical composition, and chlorine and muriatic acids probably exert a similar influence. Quick-lime and charcoal, on the other hand, most likely owe their disinfecting properties to their power of absorbing various gases. These chemical agents are all useful, but cleanliness and ventilation are disinfectants in the power of all, and their operation is both continued and conducive to comfort.*

Refer to—*Air—Contagion—Chlorine, &c.*

DISLOCATION,—in medical, or rather surgical language, means the displacement from their natural positions, of bones or portions of bones at the points where they are connected together by means of joints or "articulations." There is not, perhaps, a bone in the body which may not be displaced by violence, but some are much more liable to the accident than others. It would answer no good purpose, in a work of this kind, to enter into details respecting the varied dislocations which may and do occur: a few, therefore, only of the commonest, most easily recognizable, and most readily remediable will be noticed. There is some difficulty in treating the subject of dislocation in a popular work; for although, from the nature of the accident, and of the circumstances in which it is apt to occur, it is highly desirable that some knowledge should be possessed by the unprofessional, both as regards the signs and symptoms of dislocation, and its more immediate treatment; the difficulty that occasionally presents itself, even to the skilled surgeon, in determining whether dislocation actually exists or not, or whether it is complicated with some other injury, such as fracture, renders the matter a delicate one for lay interference. With this caution, therefore, that unless tolerably clear upon the point, it will be better to wait even days for the arrival of skilled advice, than to make attempts to remedy an uncertainly-ascertained injury, the following hints may be useful. particularly in those cases in which the accident does not happen for the first time, and this will often be the case; for, having once occurred, it is very apt to do so again, even from slight causes. In such cases, the doubt as to the nature of the mishap will be most materially diminished; indeed, the patient himself is generally perfectly well aware of what has occurred, and can often give directions accordingly. The symptoms of dislocation having occurred after violence or accident are, pain with loss of power over the limb or member, and its becoming fixed in one position, so that it cannot be moved, either by the patient or by others, at least not without occasioning severe suffering; numbness is felt in the limb, the person becomes faint and sick, and if the joint be examined, it will be found deformed.

Whenever doubt exists, as to whether dislocation has or has not happened, the case should be examined by a competent surgeon as early as possible, and no time wasted in fomentations and rubbings, which are perfectly useless. If a bone is "out of place," it cannot be too soon restored to its proper position, and nothing will give relief, at least for a long period, if this is not effected. A bone certainly may remain permanently dislocated, and the member attain, in the course of time, a very considerable amount of motion, by the formation of a new joint, but it is long before it does so, the power of movement is never equal to what it was before, or would have been, had the injury to the joint been properly rectified, and much unnecessary pain is suffered. The necessity for the speedy reduction of a dislocation is great, from the fact that every day increases the difficulty of its performance, and when a certain time has elapsed, no force which can be exerted—consistent with safety to life and limb—will be adequate to return the displaced bone, partly owing to the resistance of the muscles, but also to obliteration or doing away with the cavity which formed the one portion of the joint. When dislocation occurs, two different actions take place; one, that by which the bone is driven from its usual position; the other, the action of the muscles, which tend still further to draw it from its proper site, as soon as the balance of resistance of bone against bone is removed. It is, too, in most cases, the action of the muscles which tends to keep the bone displaced, and to resist the efforts made to replace it. This is evident from the fact, that if a person be seen immediately after a dislocation, and whilst suffering from the faintness which almost invariably accompanies the accident, and whilst the muscles are necessarily in a state of weakness and relaxation; the dislocation may often be reduced with the greatest possible ease, even by the unskilled; and further, when the surgeon has to deal with a case of dislocation, in a strong and muscular subject, he endeavours to produce this faintness—if that following the accident has passed away—by bleeding, nauseating medicines, warm-baths, &c.* When, therefore, a dislocation occurs, the bone is not simply pushed out of its place, but is drawn for the most part upwards, or towards the body; the dislocated bone of the finger is drawn upwards over its fellow; the arm bone, in dislocation of the shoulder, may be drawn upwards, or into the arm-pit, in this case downwards, it is true, as regards the joint, but still towards the body, and the same will be found to be the case in most forms of dislocation. The first object, therefore, in treating a dislocation, must be to draw it down *from* or out of the situation, to and in which it has been drawn, and is retained by the muscles of the limb, and to get it as near the corresponding part of the joint, or in other words, as near the part from which it has been dislocated as possible. If the dislocated bone is thus drawn down to, or near to the level of the other portion of the joint from which it has been removed, the muscles will of themselves tend to draw it into its old position. A good deal is often said about the adjustment, &c., &c., of the bone in reducing dislocations, and though, perhaps, useful in some cases, in many, nothing of the kind is required, at least unprofessional persons should not attempt it; all that is to be done is, give the muscles the chance of drawing the bone into its old place, by bringing it to a position in which this can be effected. This is often exemplified in cases in which much force is used in the reduction of a dislocation; if the force be kept up strongly, the bone cannot be drawn into its socket, because the force is stronger than the muscles of the patient; but relax the external force for a moment, and without any fitting or adjustment, the bone is instantly drawn, or "sucked" into its proper position by the power of its own muscles. The above principles will be better understood by a reference to the annexed cut—for which the author is indebted to Professor Fergusson's *Manual of Surgery*. In this—fig. A, 1—is the shallow cup attached to the shoulder blade—3—in which the round extremity or head—2—of the arm bone—4—ought to rest, but from which it is represented as displaced or dislocated. The muscles are not here represented. It is evident, that before the round head—2—is replaced in the cavity—1—it must be forcibly drawn down to its level; this drawing down the muscles strongly resist, but also tend by the same power to draw the head of the bone into its place, as soon as *it* is drawn down sufficiently for them to do so.

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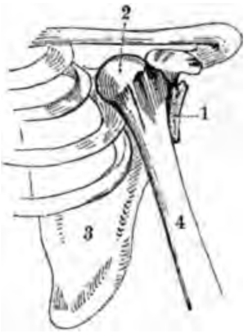
* For much additional information, see Appendix.



These *principles* respecting the nature and management of dislocations have been dwelt upon, from the author thinking that a knowledge of them would be more likely to lead an *intelligent* non-professional person to judge correctly and act efficiently on such emergencies, than the bare enumeration of certain sets of symptoms, often sufficiently obscure, which characterize the different forms of dislocations, and which he could not carry in his mind. There is, however, yet another important principle involved in the reduction of dislocations. It has been pointed out, how the bone farthest from the body—which is usually drawn up—is to be drawn down; but that this may be done properly, the bone above it must be *fixed*, otherwise it will be drawn down too. This is easily effected in such cases as the ankle or the wrist, by any one grasping and holding firmly either the leg or the fore-arm; but in the case of the hip or the shoulder, more management is requisite. In the latter, which is the most likely to fall under non-professional treatment, the shoulder-blade must be fixed or prevented from giving way with the "extending" force applied to the arm-bone; how this is to be done, will be pointed out when the particular dislocation is treated of. Again, in "making the extension," that is, using the forcible effort to return the dislocated bone to its place, the extending force will best be made in the direction in which the limb is fixed, and in the manner most likely to bring the joint portion, or "articulation" of the displaced bone, as near to the old position as possible, and it must be applied directly to the bone which is displaced. Thus, in dislocation of the shoulder, the reducing force is applied to the arm-bone; in dislocation of the hip to that of the thigh. This extending power may simply be by the hand, but a cloth, or band of some kind, put round the member to be replaced, is often more advantageous. In order to put this band on most efficiently, it is applied in the form of what is called the clove hitch—fig. B—which will be better understood from an examination of the cut, than from any description. This double noose, which may be formed of any suitable material, such as a large soft handkerchief, being fitted to the part to which force is to be used, with a piece of cloth interposed between it and the skin, is not liable to tighten when its loose ends are used to pull by. The particular dislocations most likely to be recognized and to be remedied by unprofessional persons, are those of the small joints, such as fingers and toes; of the wrist and ankle; of the elbow, shoulder, and lower jaw.

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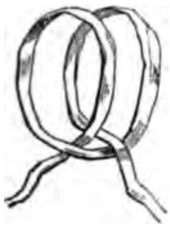
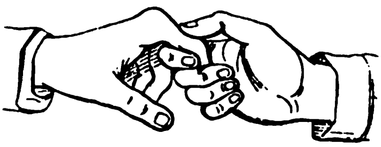
* Chloroform is now universally used to relax the muscles around a dislocated joint, which it does more thoroughly than anything else. While the patient is under its influence, the surgeon has seldom much difficulty in ascertaining the exact nature of the accident, or in effecting reduction of the dislocation.

B



Dislocations of fingers or toes may generally be made out by most, and should, if possible be reduced at once; the dislocated bone being grasped as represented—fig. C—(also taken from Fergusson's *Surgery*) and forcibly pulled into place; or the clove hitch noose, made with a piece of tape, may be used.[*] Dislocation of the thumb, it should be known, is extremely difficult of reduction, and should this not be effected *at once*, the attempt ought to be given up till the surgeon's arrival; it is, moreover, one of the dislocations which may be left unreduced with less subsequent inconvenience than many others. Dislocation of the ankle is very generally accompanied with fracture, but the distortion is often so great and evident, and the suffering so severe, that when the accident does occur far from proper aid, some attempt ought to be made to put the displaced parts in better position; for this purpose, whilst one individual grasps the leg firmly, another, putting one hand on the heel and the other on the instep, should endeavour, whilst steadily pulling downward, to bring the joint into its natural position.

C



Dislocation of the wrist is reduced by the fore-arm being tightly grasped by one individual, the surgeon laying hold of the patient's hand in his, and endeavouring by steady traction downwards, and *slight* up and down movement, to bring the joint into its proper condition.

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[*] A most excellent method of reducing dislocations of the thumb or fingers is often shown to his pupils by Prof. Syme of Edinburgh. He has a Chinese toy, like the very long finger of a glove, which may easily be put upon the finger, but cannot be *pulled* off again. This enables one to use considerable force in replacing the dislocated end, and may be useful as it is to be found in many nurseries.

Dislocation of the elbow[*] if attended to quickly after the accident, may often be easily reduced by seating the person in a chair, carrying the arm well behind the back, and pulling, not very forcibly, from the fore-arm.

Both these dislocations—of the wrist and elbow—may be suspected, when, after violence—particularly such as is *calculated* to push either the hand or lower arm upwards—inability to use the limb below the seat of the injury, and distortion and impaired motion of the joint, are unaccompanied with any grating sensation, such as occurs when bone is fractured.

Dislocation of the shoulder is most generally occasioned by violence applied to the elbow, or by falls, whilst the arm is not close down to the side of the body. Sometimes the exact discrimination of an injury to the shoulder joint is a matter of much difficulty, for fracture alone, or fractures with dislocation, may occur. At other times, particularly in thin persons, it is tolerably easily made out, more so if the examination is made before swelling comes on. In addition to the general symptoms of dislocation already enumerated, the injured shoulder will be perceptibly altered in shape; it will appear more depressed and flatter than the sound one, and if the hand is placed upon the spot which ought to be occupied with the round head of the arm-bone—and this may be discovered by examination of the uninjured shoulder—it will be found hollow, and further, if the arm be now gently moved about, and its bone traced up towards the shoulder, it will be found moving in some unusual position, most probably in the arm-pit. Supposing, therefore, that the case is sufficiently clear, and that the sufferer from the accident, in the *absence of proper surgical assistance*, is content to risk the matter upon non-professional judgment, or that from having been the subject of the accident on some previous occasion, he is tolerably certain of its present nature; the means for the reduction ought to be set about as speedily as possible, if it can be, whilst faintness from the injuries continues. These means vary considerably; hanging over doors or gates, the arm-pit being placed on the edge, have been employed and recommended; and in persons who have been the subjects of frequent dislocations in the same shoulder, may be efficient, but in a first dislocation should never be resorted to. One frequently-used method of reducing dislocation of the arm-bone into the arm-pit, is for both patient and surgeon to lie down upon the ground side by side, but with their heads different ways, and so that the surgeon, having previously taken off his boot, can place his heel in the arm-pit of the patient, whilst he grasps the hand, or a towel fixed to the arm of the affected side; in this way, whilst the heel is used to push against the displaced bone in the arm-pit, it, combined with the traction exerted by the surgeon upon the limb of the patient, tends to give a leverage by which the bone is so placed, that it can be drawn into the socket by the muscles. This method may be a convenient one, when only one person is in company with the individual to whom the accident has happened. The following is the most generally useful and most resorted to mode of reducing dislocation of the shoulder: The patient being seated on a chair, a large towel or a table cloth, folded broad, is to be passed round the chest, close under the arm-pit of the affected side, crossed over the opposite shoulder, and held either by a strong assistant or fastened to some fixed point. By this application, the shoulder blade is fixed, the arm itself is then to be pulled, chiefly in the direction in which it has been fixed, *firmly, steadily, and slowly;* this being done, either directly by the hands of assistants, or by a towel fastened round the arm by the hitch-noose—fig. B. If when this steady pull has been persevered in for some time, the displaced bone does not get into place, the effect of suddenly taking off the attention of the patient may be tried, either by some sudden exclamation, or by dashing a little cold water in the face. By such a proceeding, the muscles which resist the reducing or pulling force applied to the arm, are for a moment, so to speak, thrown off their guard, and that moment may suffice to permit the bone to pass into its socket.

Dislocation of the lower jaw is not a very unfrequent occurrence, and happens from persons opening the mouth very wide, either in laughing or gaping; the jaw slips, and its joint portions or articulations on both sides are drawn forward; the person cannot close the jaws, but remains with the mouth wide open, a most inconvenient position should skilled assistance be far distant; the accident, however, can scarcely be mistaken, and may be rectified without much difficulty by a bystander.[†] For this purpose, the thumb or thumbs, according to whether the joint is entirely dislocated or only on one side, are to be placed by the acting party upon the upper portions of the back teeth, and strong pressure exerted downwards, whilst the chin is drawn upwards by the fingers at the same time. As the jaw returns to its place, its powerful muscles draw it upwards with a sudden snap, and if the fingers of the operator are not covered with a handkerchief or some other material, they may get smartly bitten.

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[*] This dislocation, like the preceding, is extremely apt to be confounded with fracture of the bones close to the joint, and great caution is necessary in ascertaining the nature of the injury.

[†] It should be remembered that the unfortunate sufferer is quite unable, in most cases, to speak a single word distinctly, so as to explain the nature of the accident.

After dislocation of any part has occurred and been reduced, a bandage or some application which will confine the injured members should be worn for some days, not simply from fear of the accident recurring at the time, but to keep the parts, which must have been more or less lacerated, quiet, and to permit the internal traces of the injury to be as much as possible obliterated. In conclusion, although the subject of dislocation has been dwelt upon at some length, it is chiefly for the reason that these accidents, painful at the time, and, if unremedied, productive of deformity and impaired usefulness for the future, are often overlooked, or are apt to occur at great distances from skilled assistance. In such cases, the information given in the foregoing article, may, either by directing attention to the importance of the injury and of its speedy rectification, or, if acted upon with care and prudence, by pointing out the most effective treatment, prove a useful guide.

Refer to—*Joints—Muscles, &c., &c.*

DISORDERED FUNCTION,—a term very frequently used in medical language, means departure from the usual healthy action of any portion of the body, either unaccompanied with perceptible change of structure, or as a consequence of altered structure of the part.

Refer to—*Disease.*

DISTILLED WATER.—See *Water.*

DIURETICS—are medicines which increase the flow of urine. The class embraces very many substances, but it will be sufficient to notice only those which may be most safely and generally used; they are—

Broom,
Dandelion,
Fir Top,
Gin, } which contain turpentine,
Juniper,
Parsley,
Potash—Solution or Liquor Potassæ,
„ Acetate,
„ Bitartrate, or Cream of Tartar,
„ Carbonate,
„ Nitrate or Saltpetre,
Soda—Carbonate,
Spirituous Liquors,
Spirit of Sweet Nitre,
Squill,
Turpentine.

There is always some degree of uncertainty in the action of diuretic medicines, but with some more than others The author has found the two first on the list—broom and dandelion—as certain, or more so than any others, and, as domestic remedies, they have the advantage of being easily procurable in this country, and of being perfectly safe. Fluids should be given freely during the action of diuretic remedies. It sometimes happens, that diuretics which would not act before, act after the administration of an active purgative. Similar effects are found in the hands of medical men, before and after bleeding. As mentioned under the article *Coffee,* the infusion of the raw berry is diuretic. Mental emotion such as fear, and nervous disorders such as hysteria, it is well known, give rise to great increase in the flow or urine.*

Refer to the various separate articles, for the uses, &c., of the diuretics mentioned.†

‡DOVER'S POWDER—is a compound of one grain of opium, one of ipecacuanha, and eight grains of sulphate of potass, powdered *well* together: ten grains consequently contain one of opium. It is much used as a remedy to produce perspiration—in which, however, it often fails—and in cases generally where opium is requisite. The ipecacuanha may occasion sickness.

Refer to—*Opium.*

DOUCHE—is a stream of water directed upon a part of the body, and "is most frequently performed while the patient is in the bath. Douches are of various kinds, as the descending, the lateral, and the ascending—the water in the first kind falling from a reservoir, at a greater or lesser height upon the patient in a single or divided stream, the size of which may be varied according to circumstances. The lateral douche is produced by a man's pressing the water through a tube, as with a fire-engine, the stream being directed against any part of the body that is indicated. The strength of this can be regulated by the attendants pumping with a greater or less degree of force, and also by a finger placed over the aperture by which the stream is divided. In the ascending douche, the column of water is directed upwards, and is usually taken in a sitting posture; this douche being almost exclusively employed in complaints of the organs contained within the pelvis.

"Douches are directly exciting remedies, and are mostly used to produce a greater degree of vitality and activity in parts, as in cases of local debility, scrofulous swelling, muscular rigidity, paralysis, contracted joints, neuralgic pains, &c. They are mostly administered while the patient is in the bath, and are often advantageously combined with friction. The employment of the douche requires to be carefully superintended."—Extracted from Lee's "Baths of England."*

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* Muriate of Ammonia has been found an excellent diuretic, especially in cases in which the liver is affected.

† See Oat.

‡ DONOVAN'S SOLUTION.—This contains Iodine, Arsenic, and Mercury, and is a convenient form for administration, when it is desired to give these drugs in combination. Dose—Five to Ten drops three times a-day. It is, however, a medicine scarcely suitable for unprofessional hands.

Refer to—*Bath.*

DRASTIC—a medical term applied to purgative medicines, which act strongly and produce watery evacuations.

Refer to—*Purgatives.*

DRAINAGE—is the important process by which superfluous moisture is removed from the soil, through the soil itself, or by means of channels made in or through the earth. It may be either natural or artificial; to carry off the simple excess of fluid resulting from atmospheric moisture, such as rain, or to remove the impure and deteriorated fluids, which more or less result where man and the domestic animals are congregated.

The salubrity of a district is always closely connected with its natural drainage; whenever moisture accumulates, either from position, that is, want of inclination or slope to run it off, or from the nature of the soil, disease is apt to prevail. Professor Ansted† remarks, "There can be no doubt that the district where sand and gravel allow the water to drain off at once beneath the surface, and that where hard and impermeable rock permits the rain to escape readily into the nearest running stream, will be on the whole the most healthy; while, on the other hand, that in which the tough clays retain the water in ponds on the surface will be exposed to marsh fevers and various disorders affecting the throat and lungs. These remarks apply chiefly to temperate climates, but when the conditions of vegetation are taken into account, they are no less true than important for warm countries, where the rankness of the vegetation must no doubt be connected with the nature of the sub-soil over which it grows."

These considerations are important for all, and especially for the emigrant and settler in new districts, who ought always to fix, if possible, upon a site for his dwelling, where the water has or may be made to have an efficient drainage in every direction and way, and to exercise caution also, that the dwelling of himself and family is not so placed that any generally prevailing wind can blow upon it from a marshy or badly drained tract of country. The effect of draining the soil, in rendering a country more salubrious, and in removing disease, is well exemplified in the disappearance of ague from many parts of Britain in which it formerly prevailed, a circumstance which can only be accounted for, by the increased attention to the drainage of those districts. As might be expected, low situations are not likely to be so well drained as those situated on elevated ground; the latter does not, alone, however, suffice in all cases if the drainage is improperly managed, and some of the worst local forms of typhus have been known to prevail in such places.

The drainage of houses or collections of houses, where day by day there must be removed the excretions, both solid and fluid, of man and animals, is one of the most important points connected with the preservation of health, it might almost be added, and one of the most neglected ones. Both in town and country, the necessity for sufficient drainage, whether of the natural moisture of the soil, of the results of animal life, or of domestic habits, has been, if not entirely overlooked, most insufficiently provided for. It might shame the boasted civilization of our era, to learn that in Mr. Layard's researches in Nineveh, he found the buildings—of an age estimated at 1200 years before Christ—provided with a complete system of sewerage. Each room had a drain connected with a main sewer.

It is generally thought, that in the country less necessity exists for perfect drainage than there does in large towns, and to some extent the idea may be correct, in so far, as the less number of individuals collected in a given spot, and the freer circulation of air, must tend to preserve greater purity of atmosphere; but the idea, by lulling suspicion has proved a dangerous one, and the single homestead, or small isolated hamlet, has been desolated by the scourge of fever, which a little precaution might have prevented. One most striking instance has been recorded by Dr. Christison, which occurred in and close round a farm-house occupied by an extensive farmer, in "a thinly-peopled rural district in Peebleshire." With respect to situation, Dr. Christison, after describing it, concludes with, "a healthier locality could not well be chosen;" and yet, in and close to this healthily-situated house, and in no other in the district, fifteen cases of a severe and peculiar form of fever occurred within the space of a few weeks, and three proved fatal. Such a well-marked visitation could not well escape searching investigation, which brought to light the fact, that the house was completely surrounded by drains, which had, in the course of time, become filled up with the drainage of the farm-yard, of the necessaries, &c., &c. Such cases are by no means uncommon, even in country situations which would be at a first glance esteemed most salubrious, and indeed would be, but for the shameful neglect of the inhabitants. The author cannot recollect during ten years' practice in a rural district, any invasion of fever going through a house or collection of houses, which has not been traceable to deficient drainage, and neglect of sanitary measures generally. It is not fever, however, as generally so called, which alone occurs in consequence of deficient drainage, but bad health generally; and whatever case of disease or accident may remain within the tainted locality, acquires a certain unfavourable tendency and type; *even recovery from child-bed is affected by it, and perhaps more cases of child-bed fever and death than would be imagined, might be traced to the unhealthy influences originated by habitations situated in a badly-drained locality.* Surely this last consideration, if no other, might rouse *men* to act: the point touches the wealthy citizen as well as the poor one.

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† Professor of Geology, King's College, London.

* An excellent syphon douche, applicable to many purposes, and certainly less fatiguing to the patient than any other, has been invented by Dr Fleming of Birmingham, and can be had from Mr Salt, instrument maker, there.

Inflammation of the eye, or rather of its covering membrane, the "conjunctiva," has been found occurring commonly in particular localities, no cause being assignable beyond that of stagnant and putrefying ditches or unwholesome drains. The contamination of wells which supply water used for drinking and cooking, by badly-arranged or imperfect drainage, is a very fertile source of disease; many of the worst invasions of fever, and cholera also, have been traced to this disgusting source.

Whatever has been said respecting drainage in country places, applies with increased force to the provision in towns, with their dense populations. On this head, Mr. Grainger, in his pamphlet published by the "Health of Towns Association," remarks, "The most prolific source of disease in towns is, certainly, defective drainage and sewerage. Where large numbers of human beings are collected together, it is apparent that there must result a vast amount of refuse matter of every description, to which must be added, the solid and fluid excretions of the body, the former of which alone, amount, in a town like Liverpool, to nearly six thousand tons annually."

The first essentials for proper drainage are, well-constructed sewers, that is such as will not promote the deposition of solid matter in their interior. That the majority of the old sewers and drains do this has been proved before the Health of Towns Commission. It was shewn, that "by their unnecessary size and defective form, most of the old sewers being flat at the bottom, they cause a retardation in the flow of their muddy contents, and thus, of necessity, produce a lodgment of putrefying animal and vegetable matter. Another source of deposit is the improper direction of these conduits, the sharp angles and curves of which, especially where the smaller sewers enter the main trunks, lead to obstruction, and to these must be added the various irregularities of surface connected with the masonry." Again, drains are frequently placed too near the surface, and leave the under-ground premises either undrained, or, what is worse, receptacles for their leakages should they get out of order; then the most superficial drains of all, the gutters, are full of holes and crevices; the entire system, including the gratings over the under-ground drains, being calculated rather to foster disease than to remove the causes of it. In addition, however, to construction, a full supply of water is requisite, one that can thoroughly and periodically, at not too distant intervals, be sent in full volume —"flushed"—through the passages so as to sweep everything before it.

One gentleman, Mr. Guthrie, examined before the Health of Towns Commission, gives the following important points of evidence: he says, "My attention has been more especially directed to private drainage, or the sewerage of individual tenements; for I am satisfied the public health is more deleteriously influenced by the exhalations which arise from pent-up matter in them, than by those which issue from the great main or common sewer. I hold every system of flushing to be imperfect which merely hurries along the contents of the principal or main sewers, while the putrefying débris of inhabited tenements is left undisturbed in house drains. The reason why house drains act so imperfectly, that they frequently get entirely choked up, is simply because their too limited supply of water is spread over so great a surface that its power to carry along matter in suspension is lost."

Choking from accumulation seldom takes place in the small iron or lead soil pipe, neither would such a circumstance ever take place if the calibre of the tube or drains intended to carry off the soil, were not made so great, that the usual allowance of water is unequal to the task of washing out its interior. "The tubes made for house-drains should be *circular*, and not more for any ordinary tenement than from three to six inches in diameter. The form of main sewer most recommended by those who have paid much attention to the subject, is the oval—fig. A—or with a lesser curve at

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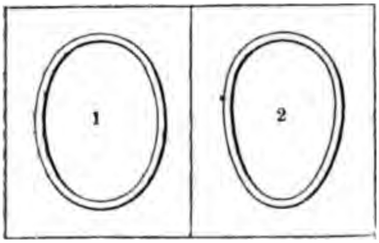

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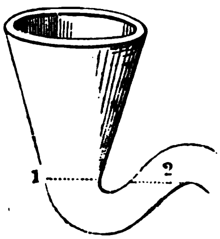

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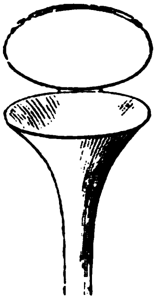

bottom than at top—fig. A 2. It is calculated that this latter form "gives full action to the water at the time it is most needed, namely, when the quantity is smallest. Drain tiles or bricks may be used to form these oval sewers; but tubes in moderate lengths are most strongly recommended. In addition, it is advised that whatever materials are used for drains should be glazed in the inside, as tending less to promote deposition of solid matter, and also being more easily cleansed. Sufficient fall for the fluid is of course requisite for a complete drain.

Effluvia are very apt to escape from drains "by the improper position of the gully gratings, and from these not being trapped. By improper position is meant the top of an eminence, where no surface water can properly accumulate." Gratings and gullies are therefore injurious in such situations; and, indeed, should only be placed where absolutely necessary to carry off surface water, which will clear them out; and they should be trapped. The inmates of houses close to gully holes have been known to be attacked with fever which could in no way be accounted for, except by the emanations proceeding from the sewers through the gratings.

Lastly, all those parts of a house which are connected with sewers and drains, such as water-closets, sinks, &c., ought to be so constructed that they do not allow effluvia to escape. This may be simply and cheaply done by means of earthenware soil-pans, with syphon-pipes, as represented—fig. B—in which the stratum of water—fig. B 1.—which always must remain in the lowest part of the pan, acts as a valve against all effluvium from the pipe—2. Where a sink is not attainable, a simple funnel-like pipe, with a cover—fig. C.—may be fitted into the floor, and made to lead into the drain. The subject of drainage generally, is so important, and its connection with health is so intimate, that it might be extended to a much greater length than the limits of this work will admit of. Enough, it is trusted, has been said to direct attention to it, and those in whom a spirit of inquiry has been excited, and who desire more extended information, cannot do better than seek it in the valuable and cheap publications of the Health of Towns Association*

DREAMING is the wakeful and sentient condition of some of the faculties of the mind, whilst the others are asleep. The whole subject of dreaming is highly interesting in a psychological point of view; but it is only in its connection with the body that we have here to do with it. Some persons naturally dream more than others; but there is no question, that the occurrence and more particularly the nature of dreams are both much influenced by the condition of the body. Few are so fortunate as to have escaped an attack of incubus, or nightmare, arising from disordered digestion; and all who have been much with children, know well how liable they are to suffer from disturbing dreams, whenever the stomach and bowels are disordered. It may be safely asserted, that a large proportion of uncomfortable dreams are connected with disorder of the digestive functions—generally over-loading, but sometimes the reverse. Some people always dream if they do not take some slight refreshment just before retiring to rest. Mental excitement during the previous day is of course a frequent cause of dreaming. Organic diseases, which give rise to oppression within the chest, such as diseases of the heart, are peculiarly liable to occasion uncomfortable dreams and nightmare. Uneasy and powerful sensations excited upon any portion of the body occasion what are called suggestive dreams; that is, the sensation seems to start some thought in relation to itself from which a train of incongruities, such as occurs in dreams, appears to arise; a blister is the foundation for some dream of torture; or a loud sound for one of tumult.

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* For additional information—See Appendix.

Although made the subject of much credulity, dreaming, not only in its general character, but as regards the nature of the dreams, is not to be altogether disregarded with respect to the indications it affords of the bodily condition. When natural sleep is thus disturbed, particularly by dreams which cause alarm and uncomfortable sensations, or which occasion children to start and scream, the cause should be investigated; some error, simply as regards diet, either as to time, quantity, or quality, may be the reason; or disease may be forming. One or two smart purges will frequently remove the symptom. Whether in child or adult, should much mental exertion be going on, and sleep become unusually disturbed by dreaming, mental relaxation, and a greater amount of physical exercise should be combined with attention to all the functions* The shower bath, either generally, or as a local application to the head alone, will be useful in such cases.

Refer to—*Sleep.*

DRESS—See *Clothing.*

DRESSING is the application of various substances or agents to diseased or wounded parts to protect them from the action of the air, and, from external injury, and either by mechanical action or otherwise, to promote their healing or cure; it is of course also requisite both for cleanliness, and for the comfort of the patient and of those around.

In former times, the process of dressing was a much more formidable and complicated affair than it is now, under the modern, simpler, and more efficient practice of surgery—too simple to please patients sometimes. As the treatment of and mode of dressing burns, wounds, &c., is entered into in the articles on these and similar subjects, it is unnecessary to reiterate them here, and for what is requisite respecting the application of bandages, the reader is referred to the article itself; here it is proposed to give, more, the principles on which dressings generally should be conducted, than its details.

The first essential in dressing is gentleness and lightness of hand. Parts which require the process are generally in a state of greater or less inflammation, and consequently of increased sensitiveness; and the patient too, owing to the weakness which accompanies or follows disease or accident is most probably in an irritable and nervous condition; for these considerations, if for no other, the dressing, which is so often dreaded, should be conducted with the utmost gentle care. The next essential is to have at hand whatever is likely to be wanted; warm soft water, with sponge—or in its place some soft material—scissors, and lint, or linen. A piece of waterproof material to draw under the part is often useful. If plasters, bandages, &c., are required, they should not have to be sought for or cut when the wound is exposed, and the patient waiting. If the old dressings have become in the least hard or adherent, or if plasters form part of the applications, they should all be well softened by the warm water before the attempt is made to remove them; they should not require pulling away. When plasters are to be taken off a wound, the lips of which they hold together, they should be lifted at both ends, so that the detaching process meets just at the wound; the object of this proceeding is to prevent the newly-healed and adhering surfaces being torn asunder, which they are more likely to be if the plaster is pulled off from end to end. For taking dressings off wounds, a pair of "forceps," as represented—fig. A—will be

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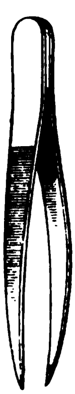

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* Those who are much disturbed by dreams should avoid lying upon the back, as experience tells that dreaming is more frequent in that position than in any other.

found useful. When the old dressings have been removed* the parts around the wound should be gently but thoroughly cleansed. If there are any loose, mortified, or "sloughing" substances upon the wound, they may be lifted off, but its surface must not—as is too frequently done, even by medical men—be washed and swilled over with water. The matter which covers the surface of a wound is the protective covering provided for it by nature, and if this be removed, it is much more likely to become irritable and painful, and to be longer in healing. When the *proper* cleansing has been effected, the requisite dressings should be put on without delay, leaving room, if there is likely to be much formation of matter, for its due discharge, and so *placing the part* when the dressing is finished, *that the discharge can easily escape.*

The various dressings requisite for injuries will be mentioned in their proper places and articles; but one often recommended in this work requires notice here: it is the simple water dressing; which is at once the most convenient, agreeable, and universally applicable application to wounds of every kind. The popular fallacy that the applications have in all cases something to do with the healing of wounds, is very apt to make people, especially the poor, look suspiciously on so simple an agent as pure water. It is true, the interference of art is frequently requisite, either to stimulate or to repress action whilst wounds or diseases are in process of cure; but in the majority of instances, the cure is the work of the natural powers alone: all that has to be done is to place these in as favourable a position for exerting their agency as possible, and nothing answers this purpose so well as pure soft water. The application is made either by linen or lint soaked in the water—warm, tepid, or cold, as most agreeable to the sensations of the patient, and is in most cases covered over with some material which will prevent evaporation. Oiled silk has generally been used for the purpose, and oiled calico where economy is an object, but latterly thin sheet gutta percha has been employed, and answers extremely well. If linen or common lint is used, it will require folding at least double, to enable it to retain moisture sufficient. As a dressing, Taylor's new patent lint is a much thicker and more spongy, and for this purpose, better adapted material than the others. Water dressing is not necessarily covered with waterproof material; if the part requires keeping very cool, it is better not so; but then it will require much more frequent wetting, either by a nurse or by the system of irrigation recommended under article *Cold.* When waterproof material is put over the wet linen or lint, it of course prevents evaporation, and keeps in heat; *it should always be larger than the lint.* A mistake is very commonly made in this matter; a great piece of linen or lint is put on with its edges sticking out beyond the oiled silk, or whatever is used; and these edges, or even a very slight protrusion, are sufficient to drain off the entire moisture, leaving what ought to be a most soothing dressing, a dry and irritating one. Among the poor the most complete ignorance respecting the use of water dressing prevails, it is too simple to get much of their confidence, and very often, unless the most particular and repeated directions are given; the waterproof material—mistaken for a plaster—is put next the sore, and the wet lint on the top of it! Of course, when requisite, any description of lotion can be used as a dressing in this way, in place of the simple water. So universally applicable is the water dressing, and lotion applied in the same way, that they may almost entirely supersede ointment, to which there are many objections. A greasy application is seldom as pleasant, and never so cleanly as the fluid one; moreover, ointments are very often indeed used rancid, and thus become sources of irritation, rather than of benefit. When a simple greasy dressing is required, a little perfectly fresh lard, or olive-oil, is as good as any.

Refer to—*Adhesion—Bandages—Blisters—Burns—Wounds, &c.*

DRINKS.—Fluids taken by the mouth, may be simple, medicated, nutrient, or stimulant. The only simple drink is water. When agents which act medicinally upon the body are dissolved in that fluid, as in the case of mineral waters, either natural or artificial, when it is rendered alkaline, or is acidulated, or is impregnated with carbonic acid gas, as in the case of soda water, it becomes a medicated drink. Barley-water, toast-water, milk, &c., are examples of nutrient, and alcoholic liquors, tea, coffee, &c., of stimulant drinks. It is difficult, however, to draw the line between these classes. Many drinks which might be called medicated are in daily use; those which are stimulant, are in many cases nutrient, and *vice versâ.* As drinks come under the head of "Diluents," the reader is referred to the article under that head.†

DRIPPING.—As this article is often used for household purposes, or given away, it should be known that symptoms of lead-poisoning, or colic, have been induced by dripping from meat which had been baked in a newly-glazed earthen vessel; the lead-glaze being soluble in the fatty matter; neither should it be forgotten in connection with this subject, what was said of the power of fatty matters to act upon copper, when kept in vessels composed of that material, and especially if mixed with salt.

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* The dresser should always have at his hand a box or a basin into which the dressings or bandages may be put and removed, in order to be destroyed, or washed and reapplied as the case may be.

† The fever drink recommended by Dr Watson is a drachm of chlorate of potash added to a pint of water. A very refreshing drink may be made by adding two drachms of dilute phosphoric acid to a pint of barley water.

* **DROPSY** is the effusion or accumulation of the serous or watery portion of the blood —such as we see thrown out in a blister—in any of the tissues or cavities of the body. Thus the watery effusion may take place in the cellular tissue—See *Cellular Tissue*—which connects the various portions of the body, and fills up their interstices, in which case it will show itself in the eyelids and other portions of the face, or swell the feet and legs, hands and arms, or the body generally. This form of dropsy is called by medical men "Anasarca." The effusion, on the other hand, may be into some of the larger cavities, as into the abdomen, when it is named "Ascites;" or into the cavity of the chest, between the lungs and ribs, when it is known as "Hydrothorax, or water in the chest." Again, effusion may take place into some of the smaller cavities, or rather "sacs," as into the bag which surrounds the heart. Whenever it occurs, dropsy is always to be regarded seriously. It is not, as the unprofessional generally regard it, a disease in itself, but it is almost invariably a symptom of disease, either constitutional or local, existing in the system. It is not here meant that dropsy is not a disease, but that it is generally a secondary one, not the original affection, which may, however, be so obscure, that nothing is left for the practitioner to treat but the dropsy, and that he must get rid of, if possible; for though in itself an effect only, it tends to produce other diseased actions, by impeding or stopping the functions of important or vital organs.

Anasarca, or effusion into the cellular tissue, may be simply the result of general constitutional debility, of which the blood-vessels, both large and small, and the heart partake; this form of dropsical swelling usually shews itself in the feet or ankles towards night, especially after long standing; many delicate persons are subject to it as a temporary ailment, when from any cause the general health has become impaired. When it shows itself and continues in the weakly, as in delicate girls, along with weakness generally, pallor, &c., it is only to be got rid of by measures which restore the tone and vigour of the system; such as good diet, with port wine and porter, tonic medicines, exercise, and change of air. Should the error be made of confounding it with an inflammatory condition of body—and the quick irritable pulse might mislead—and lowering measures be resorted to, the disease will be greatly aggravated. Local anasarca, or dropsical swelling, may arise from any cause which impedes the return of the blood through the veins; and is a very common accompaniment of disease of the liver or heart, or of tumours which press upon the great veins; of this, pregnancy, which often occasions swelling of the legs during its continuance, is an example, the effect passing off as soon as the cause is removed. The lower limbs are the most frequent seat of anasarcous, or as it is often called, "œdematous" swelling; but the hands, face, &c., are also occupied by it; indeed, swelling of the eyelids in the morning, with stiffness on first trying to open them, is often one of the first symptoms of the tendency to dropsical effusion, whatever the cause. Again, anasarcous dropsical swelling may be occasioned by affection of the kidneys, which cannot carry off the fluid from the body with sufficient rapidity. The above are all instances of what are called "passive" dropsies; the cause generally acting slowly, and unaccompanied with a marked feverish state of the system; there are, however, forms of dropsy which are attended with this feverish state, and in which the watery effusion takes place rapidly, sometimes surprisingly so. The best instance of this is the acute form of dropsy, which is apt to happen to convalescents from scarlet fever, and which is traceable to cold. Whatever occasions "anasarca," or effusion of watery fluid into the cellular substance of the body generally, may also cause its occurrence in the cavities, as of the abdomen or chest; but it may also take place both in the large and small cavities, as a consequence of local inflammation. Their lining "serous" membrane becomes inflamed, and pours out a watery secretion in greater or less abundance. It is matter of popular information, that dropsy in the belly is apt to follow inflammation, and that water in the chest results from pleurisy.

From what has now been said in explanation of the nature and causes of dropsy, it must be evident that its serious treatment is not for the unprofessional; the causes are often too obscure, and the proper and *efficient* remedies, too active to be entrusted to non-medical hands, particularly as it can rarely be an emergency. A case of inflammatory dropsy, such as occurs after scarlet fever, might of course happen at a distance from medical aid, and for the measures to be adopted the reader is referred to article *Scarlet Fever*.

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* Drop wrist—See Appendix.

Whatever form dropsy assumes, however, the case should at once be put under medical superintendence. As temporary palliative measures, the bowels should be kept either simply open or actively purged, according as the patient is of weak or strong habit of body; and the effusion of water may be kept in check by the use of diuretic remedies — See *Diuretics*[*] Of these, infusion of broom or dandelion, cream of tartar, sweet spirit of nitre, or saltpetre, will be found the most suitable.

Refer to—*Blood—Diuretics—Urine, &c.*

DROWNING—is death by suffocation from immersion in fluid. Few subjects treated of in this work are more important; accidental drowning is so frequent an occurrence, and it so often happens that no medical assistance is at hand during *those first few precious moments* after the body of a drowned person is recovered from the water, that some bystander, who is possessed of the knowledge, not only of what ought to be done, but of what ought to be avoided, may have the satisfaction of saving a life which must otherwise have been lost. When an individual falls into the water, especially from a height, there may or may not be considerable shock, from the body striking the surface; or the head or other parts may have struck against a stone or some hard body, or there may have been fainting caused by the fright; all these circumstances must, of course, modify the effects. The last has been said to account for those cases which have been *reported* as recovered, after very long immersion, that is, half an hour or longer.

The longest well-authenticated time of complete immersion, after which recovery has been effected, is fourteen minutes, and this case stands by itself. Other cases of ten, six and five minutes are recorded, but there is always doubt whether immersion has been complete during the whole time; this doubt, however, which must occur in most cases, is the very reason why hope should not be abandoned, even after persons may be *thought* to have been in the water a considerably longer period; and though it might be established, that none could be entirely under water for five minutes, and recover, this is not to be acted upon; half-an-hour's supposed immersion, or even longer, should be no barrier to efforts at restoration. When an individual falls into water, the body generally rises again to the surface, when an effort to breathe is made; air may be drawn in to some extent, and with it water, more or less, which passes into the stomach; this may be repeated two or three times, or efforts to breathe may be made beneath the surface; however it may be, the contact of the water in the breathing effort causes closure of the "glottis" or chink at the upper part of the wind-pipe; a small portion of fluid may pass in, but the principal effect is the exclusion of the air, and thus the drowned person is effectually suffocated, and the lungs in a considerable degree emptied of their air, which is pressed out in the vain respiratory efforts, and rises in bubbles to the surface. The amount of water which may have been swallowed is comparatively of little moment, and can have but little, if anything, to do with the fatal consequence. A person, therefore, who is rescued from the water after immersion, if not dead beyond recall,—and here is the doubt of which they should be given the advantage,—is partially suffocated; the vital powers are also depressed by the action of cold, and probably also by the struggles and shock, both mental and bodily; but still the machinery is perfect,—the pendulum may be stopped, but the spring may yet be capable of action. In other words, vitality, though apparently suspended, may yet linger in a frame of which the structures are as capable as ever they were of acting as its agents; the mysterious link which binds them in action may be almost severed, but our efforts may restore it.

The first thing to be done when a person apparently drowned is rescued from the water, is to wipe and cleanse thoroughly the mouth and nostrils, the next to apply warmth to the body. This last cannot possibly be done as long as it is covered with wet clothing; and if this is the case, it should be removed—*cut off*, if necessary for haste—as quickly as possible. If there is a house or shelter of any kind very near the spot where the body is got out, it may be taken to it at once and before the clothes are removed, but if such is not the case, *provided dry coverings are at hand, the wet clothes should be stripped off on the spot.* In removing the body, it is best done by laying it on the back or side, on some flat board, such as a door or shutter, the head and shoulders being well raised; but if there is nothing at hand on which the body can be laid, care should be taken in carrying it that the head is well supported, neither allowed to fall back, nor forward upon the chest. As soon as may be, warmth is to be applied to the entire external surface; if a warm bath—temperature 98°—is available, it should be used, if not, the body is to be covered up with warm things; bags of hot bran, hot salt, or sand, or any other convenient vehicles for heat are to be placed wherever they can be, without interfering with the necessary manipulations; to the pit of the stomach, and to the feet especially, their application is to be used. Frictions with stimulants of some kind, such as camphorated oil, brandy, or any other spirit mixed with oil, or turpentine; should any of them be used warm, and rubbed in with a flannel; a warm stimulant clyster, consisting of gruel—temperature 100°—containing a table-spoonful of turpentine, or double the quantity of brandy, may be given, and strong smelling salts held to the nostrils *at intervals*. Artificial respiration, recommended by some, is condemned by others. Certainly, the old method of using bellows and other means to inflate the lungs, was much more likely to do harm than good, particularly in the hands of the unprofessional, who would be much more likely to inflate the stomach, and thus impede respiration. Attempts to imitate the natural process of respiration may, however, be made by pressing inward the ribs and pit of the stomach, and allowing them to rise again by their own elasticity, repeating this process twenty or five-and-twenty times in the minute. Galvanic and electric shocks passed through the chest and upper portions of the spine would probably be useful, if the apparatus chanced to be at hand, but this will seldom be the case. The new electric belts will probably however, afford greater facility in this respect. These are, however, but accessory means, which may be employed or not, as available and convenient, and *as far as they do not interfere with those essential remedies which are most to be relied upon;* these are, external warmth and continued friction, with care taken that the shoulders and head are raised, the mouth and nostrils free. For the more easy application of remedies, the body should be laid on a table of convenient height.

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[*] It is also of the greatest importance to maintain free action of the skin by means of the hot air bath, which, in the absence of any apparatus, may be done very simply by burning an ordinary spirit lamp under the blankets, which are prevented from singeing by being raised above the flame by a piece of wicker work or anything suitable that is at hand.

Having now mentioned what ought to be done in cases of drowning, it is necessary to notice *what ought not to be done;* for many old and most injurious modes of treatment are still apt to be resorted to by the ignorant and prejudiced. Most of these have originated in the idea, that water swallowed was, or had something to do with the cause of death; hence patients have been hung up by the heels, rolled on barrels, choked with emetics, under the idea of making them disgorge the water.

Undoubtedly, if there is much water swallowed—as sometimes happens—it would be better away; but any means which unprofessional persons can use for its removal, would only be a worse evil. If a medical man is present, and thinks well to use the stomach pump quickly, remove the water and replace it with a small quantity of hot brandy and water, it may be of service; but no attempts should be made to administer anything by the mouth as long as unconsciousness continues.

In cases of drowning, the motto should be,—never despair: when all hope seems to have vanished, and no sign of life been given for one, two, four, six, or even eight hours, the perseverance of those around has been at last rewarded, and existence preserved.

After a person has been restored to consciousness, there may be considerable congestion of blood about the head, which may require leeches. In all cases of recovery, the greatest care must be taken to preserve the re-excited actions; if stimulants are thought requisite, they must be given most cautiously, and all sources of excitement, such as visits from friends or relatives, guarded against: hot fluids, tea, coffee, and the like, should be given moderately, and the strength supported by nourishing meat soups.*

Refer to—*Lungs—Suffocation, &c.*

DRUG—is the general term applied to medicinal agents used in the treatment of disease; it is, however, more generally employed with reference to the crude or commercial substances; after these have undergone preparation, they are usually called medicines. Although, undoubtedly, many medicines are largely adulterated in this country, many are impure in consequence of the adulteration of the drug in its collection or preparation by the natives of the country of which it is a product. Thus, senna is largely mixed with the leaves of other plants, opium with seeds and leaves, and sometimes with small stones, &c., &c., to increase its weight; scammony is mixed with chalk.† As, however, the adulterations to be guarded against are mentioned under the respective articles; to them the reader is referred.

Refer to—*Medicines.*

DRUM OF THE EAR, or TYMPANUM,—is an interior portion of the organ of hearing, which contains the small bones, and air. See *Ear.*

DRUNKENNESS. See *Intoxication.*

DRY CUPPING. See *Cupping.*

DUCT—is a medical term applied to a tube or "canal," adapted to convey fluid from one part of the body to another. Thus, the "hepatic duct" conveys the bile from the liver into the intestines, the "salivary ducts" carry the saliva into the mouth from the glands, by which it is secreted from the blood; the "thoracic duct"—See *Digestion*—conveys the chyle into the blood, &c., &c.

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* For additional information, particularly as to Marshall Hall's "ready method," see Appendix.

† A chemist was recently discovered to have caused several tons of *slate* to be converted into *blue pills* for the American drug market. Numerous other instances might be mentioned, and the public cannot be too careful to buy their medicines from respectable people, else the medical man will too often be surprised and disappointed to observe no action from his prescribed remedy.

***DULCAMARA**, or **Solanum Dulcamara**, or **Bitter-sweet**, or **Woody Nightshade**,—are all names for the same native plant, which is, however, widely distributed over the temperate portions of the globe. It is a shrubby climbing plant, bearing clusters of flowers, closely resembling, but smaller than those of the potato, which belongs to the same family. Under its name of "bitter-sweet" it is well known in the country. It flowers in June, and in the autumn bears clusters of red, somewhat transparent, berries. The twigs are used in medicine, and are directed to be gathered when of the thickness of a goose-quill. The medicinal use of dulcamara is as a soothing diaphoretic, producing perspiration, and it might be used in the absence of other remedies for this purpose. To make the decoction, one ounce of the twigs, chopped, is to be boiled in twenty-four ounces, or a pint and a-half, of water, till it is reduced one third. Of this, the dose is two to six table-spoonfuls twice or thrice a-day.†

Refer to—*Diaphoretics*.

DUMBNESS, or inability to utter articulate sounds, may arise from absence of the tongue, or from defect in the formation of the organs of voice; probably, also, from causes affecting the nerves which supply the organs of speech; but most generally, from complete deafness, either congenital, that is dating from birth, or as the result of disease before the power of speech had been acquired and fixed in the memory.

Refer to—*Deafness*.

DUODENUM.—The first portion of the small intestines, and that immediately connected with the stomach. It derives its name from the idea that it did not exceed twelve finger-breadths in length.

Refer to—*Alimentary Canal*.

DURA MATER is the term applied to a firm white fibrous membrane which lines the skull on the one hand, and invests the brain. Between it, however, and that organ two other membranes lie: the "arachnoid membrane," so-named from its extremely fine texture, which lines the dura mater, and also covers the brain, forming a double layer, or "shut sac," in the interior of which a watery fluid is exhaled; and the "pia mater," or vascular membrane of the brain, which lies directly upon and covers the organ itself.

The "dura mater" is prolonged into various "processes," or projections, which pass between and give support to the different portions of the cerebrum, or brain, and cerebellum, or little brain, which are in fact partially separated from each other by a fold of the dura mater. This membrane, and the others above-mentioned, are continued from the interior of the skull down the spinal column.

Refer to—*Brain*—*Spine*, *&c*.

DWELLINGS.—See *Houses*.

DYSENTERY, or as it has been popularly called "bloody flux," is a disease characterized by severe diarrhœa, fever, &c., the accompaniment of a peculiar inflammation of the mucous membrane lining the large intestines. It is much more frequent in tropical climates and marshy districts than it is in this country at the present day, although formerly it was very prevalent, forming a large item in the bills of mortality of a hundred or a hundred and fifty years back; and at times shewing itself in a fatal epidemic form. It is probable that the diminished occurrence of dysentery in Britain at the present day, is owing to the increased comfort of the population, the drainage of the land, and some attention to sanitary influences; for, deficient as the regulations attached to these still are, they are certainly better than they were a century ago. A kind of dysenteric affection—that is, severe diarrhœa, with fever, tenderness of the bowels, indicative of inflammation, and bloody stools—is frequently met with in autumn during the prevalence of the common British cholera. Dysentery appears to be engendered by exposure to cold, wet, and to privations connected with food; hence it has been one of the greatest scourges of armies. "In two years and a-half, the British army in Spain lost no less than 4,717 men by this complaint." The same causes and its connection with variations in climate, particularly with a hot one, must render dysentery a disease respecting which the emigrant ought to possess information; for it may happen, and it often does, that the disorder attacks those far removed from medical aid, and it is not one which brooks much delay in treatment. Medical men in this country have comparatively so little experience of the disease, that the author gladly avails himself of the recent valuable work of Dr. Parkes in the compilation of this article. By this author the symptoms of dysentery are thus succinctly described:—"Dysentery commences either gradually or suddenly; the general commencement is, however, by diarrhœa.

"First, as to the kind of stools.

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* Dugong oil, as a substitute for cod liver oil, see Appendix.

† It has been used pretty extensively in the treatment of chronic skin diseases, especially those of a scaly character.

"These are, first, simply numerous, perhaps fæculent, in a few very rare instances scybalous.—[That is, containing hard black-looking lumps about the size of beans or nuts, called by medical men scybalæ.]

"After this the stools become numerous, slimy, gelatinous, bloody; blood in streaks, or mixed with a dark watery fluid; in another form pure, perhaps clotted. Afterwards, stools watery, muddy, like the washings of meat, or gelatinous-looking, shreddy, offensive in odour. Sometimes after this the stools present an appearance something like pus (matter), or this is mixed with mucous slime and blood, in such a way as to form a variously coloured stool, which causes great griping and tenesmus when passed."

With respect to the causes of dysentery Dr. Parkes says: "We may admit as both predisposing and exciting causes, according to circumstances, the following agents:—

"1st.—All acrid agents, whether produced by irritating ingesta, or secretions: as bad or too rich food, bad water, fruits, or retained excretions, or derangement of the biliary secretions, &c.

"2nd.—Suppression of secretions rapidly accomplished: as that of the skin by cold, wet, sudden changes of temperature from hot to cold, &c.

"3rd.—Epidemic states of the atmosphere, and probable alteration of the blood, either from food or its digestion."

The power of these causes to produce dysentery should be well fixed in the minds of all those whose lot it may be to be exposed to their influences; for by their avoidance the disease may probably be escaped; and there can be few misfortunes greater than for a new settler, whose welfare and that perhaps of a family depends upon his health and strength, to be attacked with dysentery.

The treatment of dysentery which may most safely be practised by an unprofessional person, in the absence of a medical man, would be, in the first instance, if they were procurable, the application of leeches to the belly, a dozen or more at once, and repeated according to the strength of the patient, if the symptoms remained unrelieved. Should leeches not be obtainable, and even if they are, a warm bath once or twice—if it did not exhaust too much—in the twenty-four hours, would be found useful; and probably the hot bran poultice to the bowels. To allay pain and relieve the disease generally, opium is the most valuable remedy; but as there may be irritating matters in the bowels, they must not be confined, which the opium alone might do, and thus, though relieving apparently for a time, aggravate the disease ultimately. To avoid this, the opium should be combined with castor-oil, or olive oil, either simply or in emulsion with yelk of egg. If castor-oil is procurable, it should be trusted to; if not, Epsom salts, in tea-spoonful doses, each dissolved in from half-a-pint to a pint of gruel or barley water, or some other demulcent, with four or five drops of laudanum added, may be given every four or five hours. Ten grains of Dover's powder, given once or twice in the twenty-four hours, may probably be of service, or a pill composed of half-a-grain of opium, a grain and a-half of blue pill, and half-a-grain of ipecacuanha, may be given every six or eight hours. The safest course, however, will be the treatment by the oily aperients and laudanum. In addition, clysters, containing from ten to twenty drops of laudanum, will give much relief. Sometimes the lower bowel is too irritable to bear the clyster, or even the clyster-pipe, in which case, a suppository, or pill, made with a grain of opium, mixed with a little flour and water, may be passed into the bowel. The food requires much attention, and should be of the mildest character: milk, and preparations of the grains, and sago, arrow-root, &c., combined with gelatine or isinglass, will be most suitable. If the strength is much reduced, strong concentrated animal soup will perhaps be required.

Of course so serious, and it may be fatal, a disease as dysentery should be put under medical care as shortly as possible; in the meantime the above directions may be of much service.

"The first appearance of recovery is evidenced by the stools becoming less slimy, perhaps copious and fæculent, or bran-like, or dark and slightly beaten up; or while one part of the stool is slimy, the remainder consists of natural fæculence." A person convalescent from dysentery will of course require the greatest possible care in diet; and also with respect to all exposure to the causes which originated it.*

Refer to—*Castor-oil*—*Clyster*—*Diarrhœa*—*Suppository*—*Tenesmus*, &c.

DYSMENORRHŒA.—Difficult or painful menstruation.—See *Menstruation*.

DYSPEPSIA—INDIGESTION.—See *Indigestion*.

DYSPHAGIA.—Difficulty in swallowing.—See *Swallowing*.

DYSPNŒA.—Difficulty in breathing.—See *Respiration*.

DYSURIA.—Difficulty in passing water—See *Urine*, *Bladder*, &c.

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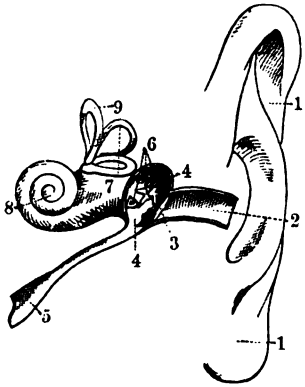
* Some cases of chronic dysentery are so obstinate as to seem to bid defiance to all methods of treatment, local and general. In these apparently desperate cases, benefit has been derived from the use of the Œgle Marmelos, or "Indian Bael." The dose of the liquid extract is one to two drachms three times a-day.

THE EAR is the organ of hearing, by means of which man and animals are made sensible of what we call sound, that is, of certain vibrations communicated to the atmosphere, or surrounding medium, which give rise to the sensation of sound, by acting upon the organ fitted by structure to receive them, which organ is connected with the brain, or agent of the sentient mind, by nerves special to the purpose. The entire organ of hearing is called the ear; its anatomy and functions constitute a wide and interesting branch of study; but here it will be sufficient to explain just so much as is requisite to give the unprofessional readers some idea of the nature of the organ—some rational view of the disorders to which it is subject, sufficient, it is trusted to guard them against submitting so valuable an agent, of which the varied structures must give rise to varied forms of disease, to be tampered with by ignorant quackery. Any one who will for a moment consider in how many ways deafness may be produced, *must* see there can be no specific to effect its cure, but that the means of cure *must* vary with the cause of the disease.

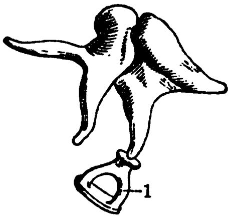
The human ear consists of an external, middle, and internal.* The external being composed of the flat folded organ attached to the head, usually called the ear—fig. A 1. —and of the ear-passage, or "meatus"—2. The external flap of the ear is divided by anatomists into various parts, which it would answer no good purpose to go over here; its evident function is to collect as much as possible the body of sound. Its adaptation for this purpose is more plainly evidenced in the movable ears of the lower animals, than it is in man. The air-passage, or meatus, is oval in form, curved upon itself, and rather narrowest in the middle; it contains a few small hairs, and glands which secrete the peculiar bitter wax, or "cerumen," which is probably a provision to prevent insects entering the air-passage.

A



The inner extremity of the ear-passage is closed by a membrane—fig. A 3.—that of the tympanum, or drum of the ear, it is placed obliquely. The cavity of which it forms the external boundary, is the portion of the middle ear named the drum, or tympanum—4.—it contains air, and communicates with the atmosphere by means of the eustachian tube—5.—which opens into the throat. The tympanum contains three very minute bones, articulated or jointed together so as to admit of slight motion; these which are represented magnified—fig. B—extend across the cavity; the small bone—fig. B 1. —which resembles a stirrup in shape, and, indeed, derives its name, "stapes," from that resemblance—being attached at a small opening to a portion of the membrane which lines the inner ear, or "labyrinth," as it is called from its complex construction. The "labyrinth," or inner ear, is composed of three parts, the vestibule,—fig. A, 7.—the "cochlea," or shell-like portion—8.—and the semicircular canals—9. Both the middle and inner ears, and indeed part of the external ear-passage, are accommodated in a portion of the temporal or temple bone, excavated for the purpose. To the small bones of the tympanum are attached four minute muscles, which by their agency act upon the membrane of the drum; the office of these bones being evidently at the same time to conduct the vibrations of sound from the membrane of the tympanum, which is exposed to the external air, to the membrane of the vestibule, which with the other parts of the labyrinth, constitute the essen-

B



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* Large papier maché models of the human ear are now shown in some popular exhibitions, and are a great assistance in the study of this most interesting and wonderful organ.

tial organ of hearing. Within the labyrinth, a watery-like fluid is the medium for conducting the vibrations of sound to the nervous expansions which are also contained within the cavity.

The disorders to which the organ of hearing is most liable, are loss of function, or deafness, noises in the ear, neuralgia, or affection of its nerves, abscess within the meatus, or in the cavity of the tympanum, chronic discharges, polypus; and further, the meatus in children is very apt to be chosen as the receptacle for peas, small buttons, or indeed anything they can poke in easily, but which are often extremely difficult to get out again.

The subject of deafness has been already treated of, but the attention of the reader is again called to the many causes which may produce the one effect. The malformation at birth of the inner ear, as a cause of complete deafness, is also connected with dumbness; or accident may at any time of life injure the delicate structures contained within their cover of bone. The passage of the air through the external ear-passage may be obstructed or prevented by an accumulation of wax or other matters; the membrane of the drum may be perforated; the bones may have been discharged by disease; or the eustachian tube blocked up by swelling temporarily, or permanently by thickened mucus. There are no diseases, perhaps, which require—as must be evident to all—more tact in their discovery and in their treatment, than those of the ear, and yet, till lately, they have been almost entirely left in the hands of ignorant assumers, and the name of "aurist" has almost been synonymous with quack. The anomaly is now passing away, and the labours of talented and scientific men are placing the knowledge and treatment of these disorders upon a more rational and scientific basis.

Noises in the ears, such as singings, ringing of bells, roaring as of the sea, &c., &c., are often extremely troublesome, and may arise from many and different causes. Mere temporary derangement of the digestive organs will in some persons produce them; they are often indicative of determination of blood to the head, and, when accompanied with symptoms of this tendency ought not to be neglected. Partial obstruction of the eustachian tube by cold, or accumulation of wax in the external ear-passage, are apt to occasion these noises, and they are accompanied with some degree of deafness. Of course the remedy must vary with the cause; if the digestive organs are deranged they must be regulated; if cold be the cause, the symptoms may be left to pass away with the temporary ailment. In some cases of chronic, or continued, noise in the ears, regularly bathing the head with cold water every morning will, after a time, remove it.

Ear-ache, or neuralgia of the ear, is treated of under the head of neuralgia generally.[*]

Abscess in the meatus is often also called ear-ache. It is one of the most painful disorders, and is generally the result of cold. It is characterized by intense throbbing pain in the ear, with, frequently, perceptible swelling externally, and more or less fever. There is no relief to pain till the abscess bursts, and this result is to be encouraged by the assiduous use of fomentations, poultices, &c. After the matter has discharged, the ear ought to be gently syringed out three or four times a-day with warm water, till the discharge ceases.[†] It will be advisable to give a few doses of aperient medicine during the progress of the case.

The abscess may form within the tympanum, and the membrane be perforated in giving exit to the matter. Inflammation of the ear ending in abscess differs from true ear-ache, or neuralgia, in the pain being comparatively slight at first, and gradually increasing in intensity as the disease progresses; whereas in neuralgia it commences with full severity.

When the discharge after an abscess does not disappear, or when running from the ears shews itself after acute diseases, such as measles, scarlet fever, &c., the symptom must not be neglected, and should be examined into by a medical man. It is most general in children of weak or scrofulous constitution, and may be with or without disease of the bone; in the latter case the discharge is extremely fetid, and often stains the linen black. These discharges must not be too quickly stopped, neither can they be allowed to go on without risk; in the former case, the sudden stoppage may throw back the disease upon the brain; in the latter, this organ or its membranes may become affected by its gradual extension to them through the bones. Counter-irritation, by blisters, or tartar-emetic, behind the ears; strict attention to the bowels; the general tonic treatment recommended under the article *Scrofula;* and syringing with slightly astringent washes, such as one grain of lunar caustic, or two of white vitriol to the ounce of water, will constitute the most appropriate treatment. The safest plan, however, is to submit the case to medical inspection. Bodies of various kinds are apt to be thrust into the external ear-passage by children, or to find their way there by accident; and farm-labourers sometimes get grain, peas, &c., projected in during threshing. If the introduced body is much smaller than the passage, its removal may be attempted by syringing freely, and with a strong syringe; but if the body fills up the meatus, or nearly so, this will not succeed; and in the event of its being a pea, or anything which will absorb fluid, and swell, will do mischief. Neither, in case of a large body, which the syringe will not disengage, is it well for friends to attempt the removal in any other way; they never do any good, and only push the obstruction further in, rendering its extraction by the surgeon more difficult, particularly if it is passed beyond the middle and narrowest portion of the canal.

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[*] M. Duval says that he has, in person, found relief in severe ear-ache, after other means had been tried in vain, from the use of a mixture of equal parts of chloroform and laudanum, a little being introduced on a piece of cotton.

[†] A very ingenious and simple apparatus may be had for a few pence at the instrument makers, which projects beneath the ear, and prevents the water from flowing over the patient's clothes as it is returned from the ear.

Refer to—*Cerumen—Head—Indigestion, &c.**

EARLY RISING.—There can be no question, as *a general rule*, that the habit of early rising is conducive to health; but, like many other similar matters, the general application would, by many, be converted into a universal law, and much fallacy and no little mischief has been done by the propagation of the dogma. The poets have given their strains, the philosophers their aphorisms, and the hearty centenarian his experience, to eulogize early rising as a sort of elixir of life, and preventive of illness and disease. It is a great good, but not a universal one.

It is generally said that all those who have attained great and green old age have been early risers; therefore, say others, early rising is a promoter of health; therefore, it might be whispered, those whose constitutions have carried them through a long life have been able to be early risers. As in many other things, the truth probably lies between the two, there have been good vital powers on the one hand, and good habits, of which early rising is often an indication, on the other. The wrong deduction, however, that early rising is an unmixed good, has occasioned much erroneous practice, and many a delicate person, either in consequence of the false idea, or badly advised by others, has injured their health, materially, by perseverance in the practice; this, however, is more common among the young, than among the aged who require less sleep.

There is no question, but that the bodily powers and constitution undergo marked and regular changes during the twenty-four hours, changes which are probably influenced by electrical and other causes not at present understood. At all events, in disease, evening brings fever if it is present at all, and towards morning, excitement abates if it does so at all; further, in health, the body, it is well known, is more obnoxious to the causes of disease in early morning than it is at other times; and lastly, persons of weak nervous power, generally feel better towards evening than they do in the morning, even when the refreshment of a night's rest might be expected to have given strength. The reason of these differences it is perhaps not possible fully to explain, but we may reasonably conclude that the same influence which causes or aggravates the evening fever, and abstracts excitement towards morning, may also act as the elevator or depressor of the constitution generally, although only felt when it is not in full vigour; it may, or it may not, be owing to the presence or absence of solar influence, but still it is so, and the fact is one of general experience. The fact, too, explains why early rising is not only not good for all persons, but why to some it is positively hurtful, and why those who are able to practice it, are generally of strong and good constitution. Moreover, the fact tells that the person who cannot rise early with impunity is not in full vigour, but requires means for attaining a better state of health: when the powers of life are raised to the proper level, then, by all means, let them be kept to it, and early rising used as one of the preservative means.

What is meant by early rising, is getting up from rest before the sun has exerted some power upon the earth; the exact period to suit the invalid it is impossible to specify, it ought to be matter of experience.† That is to say, retiring to rest at a reasonable, early hour, such as ten o'clock, the person should rise as early as can be done without feelings of sleepiness, languor, &c., supervening during the day. There are certainly evils consequent upon continuance in bed in the morning, such as perspiration, &c., but they may be greatly obviated by the non-use of feather beds, or too much clothing; they are less, however, than those which result from a nervous system exhausted, at a period of the day before it had come into full activity. The same arguments which apply to early rising, also do so to exertions, or continuance without food by weak individuals in the first part of the morning; they can practice neither with impunity. There is no time of the day so pleasant, and the hale and strong can enjoy it to perfection, and gather health in its fresh breezes, and their description will often tempt the unwary invalid to leave his couch and follow the example, and he really does enjoy, for a short time, the novelty; but shortly, languor creeps over him; the breakfast which disappears before the appetite of the strong morning walker, has no charms for his exhausted weaker companion, who pays with a day of listless languor for this ill-advised attempt. These hints will, it is trusted, not be taken as an encouragement to laziness, but as pointing out a very common error in popular belief and popular practice. The person of weak vital power, who cannot be an early riser, must guard well that he does not mistake sloth for inability, nor encourage the inability by indulging in late hours, which are often to him the most vigorous. Persons who suffer much from debility in the morning, and who are constrained to be up early, ought, as soon as possible, to have some warm refreshment, a cup of warm milk if it agrees, or tea, coffee or cocoa. In some cases, the popular addition of a tea-spoonful of rum or brandy to milk is undoubtedly useful, particularly where there is tendency to faintness; but the cordial must be taken as a medicine, and abandoned as soon as possible.

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* **Ear Cap or Cover.**—This is a cover for the ear, manufactured of india-rubber, and is moulded exactly upon the external ear. The sense of hearing is little if at all interfered with by the employment of this covering. The object of the invention is to prevent the access of cold air to the ear, and to shield it in cases of disease, as well as to protect it from injury.

† It may be said as a general rule, that for a healthy adult, eight hours' sleep—equivalent to one-third of human life—are required.

Refer to—*Bed.*

EATING.—See *Food, Digestion, Indigestion.*

ECCHYMOSIS—is a medical term applied to discoloured swelling, caused by effusion of blood beneath the skin, or in the tissues of the body. A common bruise is the most familiar example.

ECTHYMA.—A disease of the skin in which pimple-like pustules containing matter are developed. See *Skin.*

ECZEMA.—A disease of the skin in which minute vesicles are developed. See *Skin.*

EDUCATION, as applied to man, means literally the bringing forward, or encouraging and regulating the qualities or properties of which his whole being is capable. The natural division of the process is into mental and physical; the education of the mind and of the body. Strictly, in a work like the present, it is with the latter only we have to do, but the two are so intimately connected, that it is impossible to separate them.

So much that is applicable to the subject of physical education is said in the article "Children;" and also in the various articles on "Air," "Clothing," "Food," &c., &c., that it leaves but little to be added here, and to the above-mentioned articles, and to those bearing upon sanitary measures generally, the reader is referred for information.

The great difference between the physical education of the male and female sex, commences when children leave the nursery. The boy, much less hampered by the mode of clothing, and permitted much more freedom in physical exertion than the girl, has, as far as these are concerned, a better chance of attaining his full measure of health, provided the mind be not overworked, and constitution and surrounding circumstances are not absolutely deficient or adverse. The girl, on the other hand, is submitted to many artificial restraints and modes of education which militate strongly against the chance of her making a perfectly healthy woman. The diffusion of a knowledge of these principles on which health depends, has, of late years, tended to ameliorate many of the most injurious practices connected with the bringing up of girls, but many yet require to be corrected.

The bad results which are often brought about by the use of stays, have been so often exposed and condemned, that the subject has become almost hackneyed, and yet by a majority of the female sex the practice is still followed to an injurious extent. It seems as if people imagined that the Creator had made the body of the adult female so weak, that it cannot support its own weight; for either on this account, or without reason, they case it up in artificial supports. Even among the poorest the abuse extends; and girls of ten or twelve are kept from bending naturally by a stiff piece of wood stuck down the front of what, at least, stands instead of stays. True, these articles of dress do at last become indispensable, but it is only after the muscles of the frame have been weakened, in consequence of not being permitted to exert their appointed and regular action. Any muscle or set of muscles of the body, if not regularly exercised, become diminished both in substance and power; the human framework or skeleton is so constructed, that the muscles with which it is furnished, and particularly those connected with the spine, preserve its equilibrium; supersede these muscles by artificial support, and they become weakened; but as their artificial substitutes cannot act with the perfection of the natural supporters, the defect sooner or later shews itself; the unsupported spine gives way somewhere, and curvature, more or less, ensues. It would astonish most, were they made aware of how many curved spines there are, in how many, who even do not themselves suspect it, the deviation exists, and how often it is the occasion of impaired health, palpitation of the heart, hysterical and other affections.

To the above assertion, it is only necessary to add the high testimony of Dr. John Forbes, who says in a note to the article on "Physical Education," in the *Cyclopædia of Practical Medicine:* "We lately visited in a large town, a boarding-school containing forty girls; and we learnt on close and accurate inquiry, that there was *not one* of the girls who had been at the school two years—and the majority had been as long—that was not, more or less, *crooked!*" True, the whole of this enormous evil is not entirely due to the use of stays, but much of it is so, coupled with long-standing lessons, seats without backs, and too many hours devoted to the education of the mind, by which the constitutional powers, generally, are enfeebled. Moreover, the above spinal weakness is not the only evil consequence, for it is too often mixed up with disorders of the digestive and circulatory organs, originated by their compression by the clothing. The too prolonged hours of study inflicted upon girls have been alluded to, and are unquestionably a great evil, but they would be less so, were the hours of relaxation and exercise more rationally conducted. No exercise can be beneficial unless the mind be actively interested, or at least pleasantly occupied during the time of exertion; but little good can result from demure walks, taken without interest, and almost without enjoyment.

Nothing perhaps is more certain, than that, for the full development and healthy exercise of *all* the powers of the mind, a healthy body is required. The Almighty has connected our mental manifestations in this world with a material organ, the brain, and this organ, like every other in the body, is dependent for its healthy action upon that of the other organs: how evident then, that to preserve this wonderful instrument in harmonious and vigorous exercise of its powers, the whole body must be in health; but modern fashion and fallacy, and many modern educationists, say no; let the body and instrument take care of themselves, our part is to elicit as many tones from the latter as possible, and elicit them they do, but they often sadly jar; moral perceptions and acts, influenced by bodily disorder, often war with moral and religious precepts; the precept "slow to anger" cannot always control the irritabilities of a morbid nervous system, and that not "slothful in business" cannot at all times rouse the body oppressed by morbid and narcotizing blood, to the active and vigorous discharge of its duties. As long as our abode is in this world, our bodies and minds must be in intimate relation, in action and re-action with one another; God has joined them, and man cannot dissolve the union, without paying the penalty of his transgression. A perfectly healthy mind is only compatible with a perfectly healthy body, and, in civilized life, with its many causes of disorder, the latter can only be insured by attention to the laws of physical health and education. The mind, on the other hand, has its influences upon the physical health; but these will be considered in the article devoted to the subject.

EEL—is one of the oily fishes, and is peculiarly indigestible.

***EFFERVESCENCE**—is the rapid extrication of gas or vapour from a liquid, hence, boiling is effervescence: medically, however, the term is generally applied to the extrication of carbonic acid gas solely. Many mineral waters, such as Seltzer water, are effervescing, from containing the gas naturally; soda water and other effervescing drinks are impregnated with it by mechanical means, whilst in fermented liquors it is generated in the process of fermentation. In the practice of medicine, effervescing draughts are most frequently, perhaps, formed by the direct separation of the gas from one of the alkaline carbonates, such as the carbonate or bicarbonate—which latter contains the gas in greatest abundance—of potass, soda, or ammonia; the solution of bicarbonate of magnesia, or "fluid magnesia," is also used for the purpose. In many forms of illness, particularly those attended with thirst, no kind of medicine is so grateful to the patient, or so readily taken, as that which is given in a state of effervescence; if the stomach is irritable, and a tendency to sickness present, medicines given in this way are more likely to be retained, the carbonic acid apparently exerting a quieting and soothing effect upon the organ; at the same time, the taste of medicine is considerably obscured by its administration by this method. When the tongue is much furred, and particularly in cases of sore throat, when medicine in any effervescing form can be swallowed, none appears to exert a more cleansing effect, in removing thick mucus and incrustations, and if it does this for the mucous membrane of the mouth, it must probably have the same effect on that of the stomach.

Some persons who are liable to suffer from difficulty of breathing, whether from asthmatic or other causes, and those who do not easily get rid of flatulence, cannot take effervescing drinks without inconvenience; this, too, occurs if patients to whom they are administered are confined to bed, and lie down too soon after taking the dose. A minute or two ought always to be allowed for the eructation of the gas, before a patient who has taken an effervescing draught resumes a recumbent position.

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* For an account of the new granular effervescing salts—see Appendix.

One of the alkaline carbonates abovementioned being made the effervescing agent, many medicines may of course be given in combination. The acids most generally and beneficially used to combine with the alkali, and set free the gas, are lemon-juice, citric acid, and tartaric acid; they ought to be used in the following proportions: To thirty grains of bicarbonate of potass, a small table-spoonful of lemon-juice, or twenty grains of either tartaric or citric acids. To thirty grains of bicarbonate of soda, about one-fifth more of the above acids. To six grains of carbonate of ammonia, two tea-spoonfuls of lemon-juice, or about eight grains of either citric or tartaric acids.

So common has the use of effervescing draughts become, that the materials, soda and tartaric acid, and a measure for the purpose, are kept in many houses. The practice is not free from danger or injury; the continued use of soda being apt to impoverish the blood. To the weakly it is of course more likely to prove hurtful than to the strong.

The mode of mixing effervescing draughts which is commonly recommended, is a bad one. The two powders are generally ordered to be quite dissolved in separate portions of water before mixing; the consequence is, the gas is extricated all at once; the violence of the effervescence—unless the glass is a very large one—is very liable to carry up and spill over a portion of the liquid, and the action subsides before the person can drink. All this may be avoided if the acid and alkali, in *fine* powder, are put dry into the glass, and the water poured slowly upon them from some little height. In this way the gas is more slowly extricated; there is no spilling, and, if properly done, full solution of the powders ought to be effected. If lemon-juice is used, it should be mixed with the water, and poured upon the alkali in the same way. Of course, when the draught is a very small medicinal one, the same precautions are not required.

Refer to—*Ammonia—Carbonic Acid—Potass—Soda, &c.*

EFFLUVIUM is a gaseous emanation or exhalation, from any body, generally of an offensive or noxious character. Effluvia is the plural.

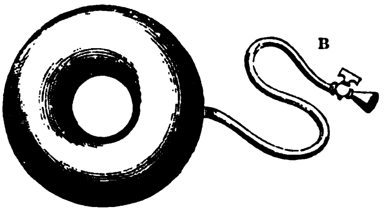
Refer to—*Contagion—Disinfectant, &c.*

EFFUSION is a medical term applied to the throwing out of an unnatural amount of fluid into cavities, or tissues, which ordinarily contain a small quantity only. Thus, the watery fluid which is thrown out into the chest in consequence of inflammation of the pleura or covering membrane of the lungs, is named an effusion. There are also effusions into the abdomen and in the head, also into joints and cellular tissue.

EGG of the domestic fowl, or of birds generally, as an article of diet, is one of the most nutritious; this is evident, indeed, from the fact, that from the contents of the egg, the entire young bird is formed.* As a means of nourishment for the sick, especially when it is beaten up, and given mixed either with hot or cold fluid, the yelk of egg is often most valuable. The white of the egg is composed of albumen and earthy salts; its yelk, similarly constituted, contains in addition oily matter and sulphur.†

In the preparation of medicines of an oily character, the yelk of egg is often advantageously employed, forming with them an emulsion which is miscible with distilled or rain water. Castor-oil and turpentine are both advantageously given by this method.

ELASTICITY is the power possessed by various bodies of returning quickly to the form from which they have been forcibly altered. India rubber, both in its natural and in its vulcanized condition, presents one of the most familiar and best examples. The elastic properties of this most useful pro-



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* The Sex of Eggs.—In an address lately read by M. Genin before the Académie des Sciences, he affirms that the sex of eggs may be accurately determined: all eggs having the germs of males have wrinkles on the smaller end, while the female eggs are smooth at both extremities.

† It ought to be made generally known that unprincipled tradespeople are in the habit of using what are called "egg powders" to colour confectionary, and that these powders contain Chromate of Lead, and have given rise to wholesale poisoning.

duct of nature, have been abundantly taken advantage of in the formation of appliances of various kinds for the treatment of disease, and for the relief of suffering.—See *Caoutchouc*. Mr. Hooper's cushions have already been adverted to under the above article. Figures A and B represent two of the most useful forms of these, calculated to relieve pressure and prevent ulceration of parts in patients confined to bed by long and exhausting disease. The elastic bandages, stockings, and supporters of various kinds, are among the most valuable additions to the modern practice of medicine; and with them may be classed the elastic pads of M. Bourjeaurd, which, whilst they exert a sufficient amount of pressure, yield, when, from counter-pressure, such as that caused by swelling of the part to which they are applied, inelastic hardness would prove injurious. The author makes no excuse for bringing forward these improvements: many persons go on suffering in consequence of not being aware that there are means of relief existing.[*]

ELATERIUM is a medicine possessing most powerful drastic cathartic properties. It is obtained from the juice of the *Momordica Elaterium*, or "squirting cucumber." The plant is native to the south of Europe. It is a most valuable remedy in proper hands, but one much too powerful to be used with safety by unprofessional persons.

ELBOW-JOINT. — See *Dislocations — Joints, &c.*

ELECTRICITY, or the Electric or Galvanic Fluid, is a material agent diffused throughout nature, either latent or unmanifested, or active and manifested, according to circumstances. Much yet remains to be learned respecting the electricity of our own bodies, and that of the objects and agents with which they are surrounded; and its relation with the phenomena of disease. As an agent in the treatment of disease, electric or galvanic action is now much employed.[†] It is a powerful excitant. The shocks from an electric machine, or other electrical apparatus, are not often useful, except in such cases as suspended animation from drowning, &c., when their passage in not too great intensity, through the spine, to the pit of the stomach, may be of service. A continued current of the galvanic fluid is a much better application of the excitant powers of the agent; and various contrivances for its convenient medical employment are sold.

The latest noticeable application of the curative powers of electricity, is the electric chain or belt of M. Pulvermacher, which is made of various sizes and powers. The author has not yet tried the large and more powerful forms of the apparatus, but he has found the application of the smaller chains of much service in the cure and alleviation of neuralgic disease.

ELECTUARY.—A medicinal preparation made of sugar.—See *Confection.*

ELEPHANTIASIS is a name applied to two very distinct forms of disease. One is a cutaneous eruption: the other a thickening of the tissues beneath the skin and around the muscles. Both are peculiar to hot climates. Their discussion could scarcely be of service in the present work.

ELM-BARK, from the well-known tree, has been used as a remedy in skin diseases.

EMACIATION is wasting of the tissues so that the body becomes thin. The process of emaciation, however, is very different from simple diminution of bulk; the latter may take place whilst the appearance of health is still retained; but with true emaciation the skin, and aspect generally, present an unhealthy appearance. There are few diseases which are not accompanied with loss of flesh or emaciation, and it is not unfrequently the first observable symptom. Dr. Watson remarks:—"It occurs in complaints that are not commonly dangerous—as in dyspepsia, and in hypochondriasis, which is often connected with dyspepsia—and when it does occur, it marks the reality of the disease. This wasting happens in many fatal maladies—in pulmonary consumption, for example — and in dropsy, although the dropsical enlargement sometimes masks it. It accompanies many acute diseases, and is reckoned an unfavourable symptom: for it shows that the body is not properly nourished. Sometimes the emaciation is so extreme that the integuments give way — the bones of the patient are said to come through his skin.

Refer to—Atrophy.

EMBROCATION.—A fluid applied with friction to any portion of the body.—See *Liniment.*

EMETICS are substances which excite vomiting; that is, which cause the stomach to be forcibly emptied of its contents by the mouth, and which do this by a peculiar action, exerted either directly upon the organ itself, or in consequence of their having been taken into the circulation; thus vomiting may be excited by the injection of some emetic substances into the viens.

Many agents are capable of exciting vomiting, which are not classed as emetics, such as nauseous tastes or smells, swinging motions, such as that which causes sea-sickness, mechanical irritation of the throat,

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[*] Every day is adding to the number of useful articles of this kind—water beds, water pillows, douches, &c., &c.

[†] Galvanism prevents the wasting of limbs which are paralysed, as well as restores action to parts in which the nerves have been impaired by injury, such as fracture, dislocation, bruises, &c. Apparently hopeless cases have been recovered, after the ordinary means failed, by transmitting the galvanic current through needles (Duchesne's) stuck into the nerve of the part, or as near it as possible. This process is called "Local Faradization," after the celebrated Faraday.

&c.; but these causes are very different from the specific action of a true emetic, which acts independently of taste or smell. Emetics constitute a class of our most valuable remedies, although not so indiscriminately and extensively used as they were formerly. In ancient times, particularly among the luxurious Romans, emetics were commonly employed for the disgusting purpose of enabling them to disgorge one luxurious meal as soon as swallowed, that they might immediately begin with another. "Cicero, in describing a visit paid to Cæsar at a villa near Rome, states that Cæsar paid him the high compliment of taking an emetic before dinner, when he understood that Cicero intended to spend the day with him."

The most generally used, and most useful emetics are—

Antimony.
Chamomile.
Ipecacuanha.
Mustard.
Sulphate of zinc, or white vitriol.

Salt is sometimes used as an emetic; and the mechanical irritation of the throat is often resorted to with benefit for the purpose of exciting vomiting. The reader will find further information respecting the above emetics under their individual articles.

When an emetic is given, it should be mixed in the first place with a small quantity of water. Except in the case of sulphate of zinc — and some other mineral emetics, not adapted for domestic use—some little time will elapse before the effects of the emetic are experienced, longer if the stomach be full of food, and *vice versâ*. The first sensation is one of nausea, accompanied with flow of the saliva, slight faintness, and cold perspiration; at last the effort of vomiting supervenes, and the contents of the stomach are ejected. As soon as actual vomiting commences, as a general rule, but not before, some tepid fluid—water, gruel, chamomile tea, or such like—should be given in moderate quantity, not exceeding a pint at a time. A slight caution is requisite upon this head; for occasionally individuals under the action of an emetic, are encouraged to drink very freely of fluid and to distend the stomach. This is not well, for it not only embarrasses the action of the organ, but might cause its being lacerated or burst. It is also requisite to caution against giving the diluent fluid too soon, that is before the specific power of the emetic substance has come into action; if this is done, the dilution will either delay, or altogether prevent the desired effect. When there is much debility of stomach, it is better to choose for the diluting fluid, a bitter, such as chamomile tea, which has the additional advantage of being itself emetic. As a general rule, the mineral act more quickly and violently than the vegetable emetics; for this reason the former are generally selected in cases of poisoning, such as that by opium, in which there is some difficulty in rousing the stomach to action at all, and in which it is important that it should be relieved of its contents as speedily as possible. In such cases, medical men may give the sulphate of copper; but for the unprofessional, the sulphate of zinc, or white vitriol, is the safest, and is a nearly equally efficacious remedy.

When there is much fever, and in some forms of inflammation, the salts of antimony, particularly tartar emetic, are most generally used if emetic action is desirable. As a simple emetic to relieve the stomach, and also in cases of chest affections, ipecacuanha will be found the best. In diseases of depression, mustard is most useful; and carbonate of ammonia may also be employed alone, or combined with ipecacuanha. In cases where the power of swallowing is lost, medical men can excite vomiting by the injection of emetic substances into the veins; this practice of course cannot be followed by the unprofessional, yet they may safely, and with much certainty of success, have recourse to mechanical irritation of the back of the throat, either by the finger or by a feather. A few individuals possess the power of spontaneous vomiting, or at least of exciting regurgitation of the food from the stomach into the mouth; a process somewhat analogous to the rumination of animals. Such persons usually suffer from dyspepsia, and have recourse to the operation to free the stomach from food it cannot digest.

The evening is generally the most suitable time for administering an ordinary emetic, as the stomach has time to recover itself during the night, and the uncomfortable nausea which often follows is less felt.

Emetics are used to fulfil various indications, the most direct and obvious being the emptying of the stomach of any noxious substances, either formed within the body, such as bile; or taken in by the mouth, as indigestible food or poison. Fortunately, these matters often of themselves excite vomiting, but in many instances, they do not sufficiently empty the stomach, in which case the action must be kept up, or re-excited, either by a diluent or by some emetic medicine. It must be remembered, however, that in the case of some poisons it is not desirable to dilute largely. In addition to their power of emptying the stomach, emetics are valuable from the mechanical effects, both general and local, which they exert upon the body. Formerly, the general mechanical effect, or "shock," of an emetic, was believed to have the power of checking fever and other diseases at their outset; it is not now, however, much trusted to by medical men, and if it does not do good, is apt to prove injurious, by causing an irritable condition of the organ, which may continue throughout the disease. In many cases of incipient disease, however, characterised by depression, coldness of the skin, &c., the mechanical action of a smart emetic of ipecacuanha, either alone, or with five to eight grains of carbonate of ammonia, is most beneficial, by rousing the system, and removing the tendency to internal congestion, or accumulation of blood. Another, and most beneficial, mechanical emetic effect, is in the case of children suffering from affections of the chest, with accumulation of mucus, or phlegm. Children cannot expectorate, and are liable to be suffocated if the phlegm is in large quantity and cannot be removed; nothing ensures its removal so effectually as an emetic, or rather emetics repeated from time to time —every few hours—according to circumstances. In cases of jaundice and overloaded liver, the mechanical action of emetics is often beneficially had recourse to. In consumption, the periodical exhibition of emetics has been recommended. In spasmodic diseases, either general, as hysteria, or local, as in spasm of the stomach, emetics are beneficial; in the latter case, often, of course, by freeing the stomach from the offending cause of the disorder. In asthma, they often relieve when nothing else will.

Emetics are not always safe remedies; in pregnancy, in persons of very full habit, particularly if there is determination to the head, in rupture, in falling down either of the bowel or of the womb, vomiting should, if possible, be avoided. The ancients held the opinion that emetics strengthened the stomach, and they were even used in the training of the athletæ; modern experience certainly does not uphold the fact, for the habitual use of these agents assuredly injures the tone of the organ, and weakens its power.

An error is frequently committed in using antimonial, or, as it is called, "antimony wine," as an emetic; it is far too depressing for general purposes. For these, ipecacuanha is quite the safest agent of the class; it should be given in powder mixed with water, and not in the form of wine, if the former is procurable.

EMIGRATION.—For those who leave their native country and go to seek a home and fortune in other lands, one thing is essential to success. Invaluable to all, *Health* is to the emigrant a necessary, it is to him a capital of more than money value; and yet this foundation of future fortune, nay even of existence, is often carelessly and ignorantly undermined at the very outset of the enterprise. Many are undoubtedly too poor and too ignorant to profit by counsel even when it is given, but thousands annually leave the shores of Britain as emigrants, who are capable of acquiring and acting upon useful information concerning matters of health; and how few, comparatively, have even a slight acquaintance with the laws which regulate their being, on the observance of which their health and usefulness depend; how few are capable of acting intelligently and promptly under the occurrence of those accidents and contingencies which it must often fall to the lot of the emigrant to encounter. Into the hands of some who meditate emigration these pages may fall; to them the author more particularly addresses himself.

The first thing to be considered must be, not whether gold is to be extracted from the river sands in one place, or corn is to be grown without exertion in another, but the question should be, What is my constitution? What are its tendencies, hereditary or acquired? To what climate is it most adapted? Will it endure the hot summers and severe winters of America, or will these probably develope the consumptive tendency I inherit? Is it not more suited for Australia or New Zealand;—are not my children more likely to be reared in the one climate than the other? These and numerous other considerations connected with *the adaptation of constitution to climate and probable occupation*, ought to hold the chief place in the decision as to emigration. That being decided, the next is the preservation of health during the voyage. As far as circumstances will permit, a vessel should be selected which guarantees sufficient room, ventilation, supply of water, and fresh food. Of course circumstances must, to a certain extent, modify these requirements; but let circumstances be what they may, a man had better remain at home, and lay his bones with those of his fathers, than take ship in some of the floating pest-houses that have been permitted to carry across the

Atlantic their freight of wretched humanity, marking their track on the deep with the bodies of those poisoned in their iniquitous holds, and landing the survivors with disease or death upon them, or with the strong arms that were to win the bread of themselves and children, weakened and unnerved. Space will not permit, in a work like the present, the detail of all those means and measures which the intending emigrant should adopt as regards health: much information on these points he may gather from the various *Emigrant's Guides*, particularly those of the Messrs. Chambers; and further, he is referred to the various articles in this *Dictionary*, which treat of matters connected with the preservation and regulation of health, more particularly *Ague*, *Bed*, *Climate*, *Clothing*, *Consumption*, *Food*, *Medicines*, *Ventilation*, *Water*, *&c.*, *&c.* These and others, contain many hints which will be found valuable, both in the selection of the future home, and of the mode and means of transit. One thing is generally agreed upon, that however good an emigrant ship's dietary may be, it is always advisable for the passengers to add a private one, of such preserves and pickles as means will allow—common cabbage will do preserved in vinegar—which may afford a supply of the vegetable acids, the best counter-agents to the effects of the salted provisions which necessarily form a large proportion of the food on board ship: a few bottles of lemon-juice are always a valuable addition to the sea-store.

As regards clothing, it is unnecessary to repeat here what is said in the article on that subject, but it may be mentioned, that emigrants who probably have to encounter exposure on first landing in their adopted country, would do well to provide some cheap waterproof material to place beneath them at night. An attack of rheumatism is an unfortunate, and often, when once acquired, too constant companion of the emigrant, and may cripple him permanently. Those who have to undergo the confinement which a long voyage must entail, most especially require to attend to all the laws of health, and particularly exercise, which, from the small walking space on board ship, is often neglected; it should be a carefully observed rule to walk for a certain time daily.

The amusement of the mind is a matter of much importance, even in a health point of view, for those exposed to the monotony of a long sea voyage; happy are those to whom books afford their never-ending resource, and the time might be worse employed than in the perusal, or rather study, of works like the present. When the new scene of labour is reached, the opportunity will be past, but the man who has acquired for himself information which may enable him either personally to avoid, or, in the case of others, to counsel the avoidance of sources of disease, or to act intelligently and promptly in cases of sudden illness or accident, may have reason to bless the, perhaps otherwise wasted, time spent in the acquisition of the principles of Domestic Medicine, or of Household Surgery.

After landing in his new country, the emigrant ought to inform himself as far as possible respecting the occurrence and causes of illness, either in the one district of his residence, or in those he may have to pass through.

As said at the commencement of this article, health is, next to trust in God, the essential, and it cannot be too jealously guarded by the emigrant, to whom its loss is ruin and misery. For information respecting medicines, the emigrant reader is referred to the article.

The following extract from an American publication will, perhaps, add force to what has been said respecting care in selecting a vessel, and attention to the means of health during the voyage:—

"The condition of the German and Irish emigrants, prior to their embarkation and during their transit of the ocean, was, in most instances, conspicuously different. Whilst the former were generally robust, and well provided on the passage with the means of subsistence, and observant of cleanliness and ventilation, the latter were, in most cases, enfeebled for the want of sustenance, and on shipboard destitute of supplies of wholesome food, depressed in mind, clothed in filthy garments, and crowded and confined in air rendered pestiferous by the excrementitious matters eliminated from their own bodies. In contrasting the hygienic circumstances in which the two classes of emigrants were placed, it is easy to account for the greater amount of sickness and mortality which occurred in one class than in the other. It is said, that of the admissions of emigrants into the hospitals and almshouses of New York, the Irish exceeded the German in proportion of ten to one.

"The Montreal Immigrant Committee, in their report for 1847, state that that year has been unparalleled for the amount of immigration into Canada; near 100,000 souls have left the British Isles for these provinces during that period; over 5000 of these died on their passage out, 3389 at Grosse Isle, 3862 at Montreal, and other places in the same fearful proportions. Never had Canada presented such fearful scenes of destitution and suffering. 'From Grosse Isle, the great charnel-house for victimised humanity, up to Port Sarnia, along the borders of our magnificent river, upon the shores of Lakes Ontario and Erie, and wherever the tide of immigration has extended, are to be found the final resting-places of the sons and daughters of Erin—one unbroken chain of graves, where repose fathers and mothers, sisters and brothers, in one commingled heap.'*

"The disease of which the emigrant passengers, and in many instances the officers and crews of ships, perished at sea, and of which a great number were ill on their arrival in the United States and Canada, was typhus fever in its genuine form. In some ships, dysentery, small-pox, and measles swelled the amount of mortality, and added to the number of sick that reached the ports of destination."

EMMENAGOGUES are medicines which exert, or are supposed to exert, their action upon the womb, and to promote the menstrual discharge. The only well-known medicinal agent which exerts an undoubted specific action of the kind, is the *Secale cornutum*, or ergot of rye.—See *Ergot*. Recently, a Chinese emmenagogue, the Key-tse-sing, has been highly spoken of; but at present the experience of its powers is limited. Some medicines seem to exert their influence upon the womb by stimulating neighbouring organs, to this class aloes belongs; others, such as valerian, and assafœtida, by their action on the nervous system, and another set, such as iron, by their tonic influence upon the system at large.

Refer to—*Menstruation*.

EMOLLIENTS—are remedies which possess the power of relaxing and softening parts to which they are applied. Heat and moisture, and oil or fatty matters, are the chief and best emollient remedies.

EMPHYSEMA—is a medical term applied to two very different disorders. In one case it denotes a state of coalescence, and unnatural distension of the air-cells of the lungs.—See *Lungs*. In the other, it is applied to the distension or blowing up of the cellular or areolar tissue of the body by air. This latter form of emphysema, sometimes follows upon the accident of fractured rib, when a point of the bone penetrates the lung. In this case, with every breath drawn in, air passes from the lung into the cavity of the chest, from whence it finds its way through the wound made in the walls of the cavity, and by this means becomes diffused through the cellular tissue; the features and the whole body become greatly swollen, and when the surface is indented by the finger, a crackling sensation is experienced. The mere distension of the cellular tissue is not a circumstance of so much importance as the accident which gives rise to it, but in those perfectly unaware of the possibility of such an occurrence, the appearance presented by the affection would cause much alarm: of course the broken rib itself should be attended to; the emphysema may be relieved by punctures made in the skin by a lancet, and by the application of bandages.

Refer to—*Fractures—Rib, &c.*

EMPYEMA—is a collection of matter in the cavity of the chest, between the lung and the ribs.

Refer to—*Inflammation of Lungs*.

EMPYREUMA—is the peculiar and often offensive smell which many substances acquire after exposure to considerable heat in *close* ovens or vessels. The fact of an article of diet becoming empyreumatized, renders it unwholesome and irritating to the stomach; on this account, baked meats, pastry, &c., are more apt to disagree than the same articles roasted or boiled.

Refer to—*Baking*.

EMULSION—is a mixture of oil with water by the intervention of a third substance. This may be effected by means of gum mucilage, syrup, &c., but perhaps the best agent for forming emulsions, is the yelk of egg. The oil must first be rubbed up with the yelk, and then distilled, rain, or perfectly soft water added gradually. Milk, which is itself a natural emulsion, is also a very good agent for uniting some oily, or such like matters resembling the oils in composition, with water, particularly camphor.—See *Camphor*, *Castor-oil*, *Turpentine*.

ENAMEL.—The outer hard casing of the teeth.—See *Teeth*.

ENCEPHALON.—A medical term employed to designate the parts generally contained within the skull.

Refer to—*Brain*.

ENDEMIC is a term applied to diseases which are peculiar to, and persistent in, certain districts or countries. Thus, ague is endemic in marshy districts; bronchocele or goitre where the water is impregnated with magnesian limestone; and cretinism in the low dark valleys of Switzerland. These, and other endemic affections are undoubtedly due to natural peculiarities of soil and climate; but their power is unquestionably much augmented by the privations attendant on poverty, and by the depressing influence of dirt and vice; or, as in the case of bronchocele, by laborious lives.

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* These terrible scenes are now matter of history, but they might at any time be repeated should the neglect which led to their occurrence be repeated likewise.

Besides naturally caused endemic diseases, there are others which may equally be called endemic, though arising from the artificial circumstances which have hitherto been attendant on man when living in community; such are the fevers of our large towns, which are so constant in their operation in particular localities, as truly to merit the name of endemic.[*]

In many situations, the constitutions of the natives of districts in which endemic influences prevail, appear to become habituated to, or proof against, the morbific causes, which are quickly productive of disease in strangers. Such is strikingly the case in the rivers of the African coast; and the Niger expedition afforded melancholy proof of how fatal to Europeans a climate may be, in which the natives live with comparative impunity. In many cases something is due to the adaptation of habits and modes of life by the inhabitants, which are either unknown to or neglected by strangers.

Refer to—*Climate—Epidemic, &c.*

ENDERMIC is the transmission of medicinal actions to the constitution through the skin. See *Skin.*

ENEMA.—A clyster.—See *Clyster.*

ENTERITIS. — Inflammation of the bowels.—See *Alimentary Canal.*

Refer to—*Inflammation.*

ENTOZOA are parasitic animals which are found in a living state within the body. The most common entozoa in man are the various forms of worms.—See *Worms.*

ENURESIS.—Incontinency of urine.—See *Urine.*

EPHEMERA.—A fever which does not last more than twenty-four hours.

EPIGASTRIUM.—The pit of the stomach.

EPIDEMIC is a term applied to a disease which attacks a large number of individuals simultaneously, or at least in quick succession. Perhaps the best instance of an epidemic is the well-known influenza, which seems more independent of endemic, or local, influences, than most others of the class. Cholera is an epidemic disease, but the liability to its visitation is evidently connected with local circumstances, which either assist in developing the activity of its mysterious germs, or at all events exert an attracting influence over them. Scarlet fever, measles, small-pox, and other diseases of the class, most certainly prevail epidemically at times; for though they undoubtedly disseminate themselves by contagion, observation would show that the contagious influences are much more potent in different places at different times. The reason why this should be so is not always traceable; but as regards the greater and more pestilential epidemics, it has been observed that they have been preceded or accompanied by striking vicissitudes in the weather. It is well known that the first extensive diffusion of the Asiatic cholera dated from a swampy district at the mouth of the Ganges, after a very wet season, and it is matter of history, that the epidemics of plague were associated with unusual modifications of weather: the extremes of heat or cold, of drought or moisture. Neither are the epidemic influences always confined to man: the lower animals are also frequently and fatally subject to them. It is remarkable, as indicative of this influence, that birds have been observed to forsake districts in which an epidemic pestilence prevailed.

Epidemics were much more common and fatal in former times than they have been within the last hundred years. Such were the plague at Athens, 430 years before Christ, the black death or plague of the fourteenth century, the sweating sickness towards the end of the fifteenth, the great plague of London of the seventeenth; at the present day, the plague of eastern countries, of Egypt in particular, and the cholera, are the modern pestilences. All these, and many others, are undoubted epidemics; but equally certain is it, that they owed, and still owe, much of their potency for evil, to local and endemic causes, and to the entire want of attention to sanitary arrangements. However deficient these may be in this country, even at the present day, were it not for such regulations as there are, we know of no reason why the plague which still lingers around and sometimes decimates the neglected oriental city, should not again visit our shores.

Refer to—*Contagion—Fomites, &c.*

EPIDERMIS.—The outer or scarf skin, or cuticle.—See *Skin.*

EPIGLOTTIS is a cartilage of an oval or heart-shaped figure, situated at the root of the tongue, which falls upon and covers the glottis or opening into the larynx, so as to protect it, particularly during the passage of food, in the act of swallowing.

Refer to—*Larynx—Swallowing, &c.*

EPILEPSY, or FALLING SICKNESS, is one of the very afflicting maladies to which man is subject, belonging to the class of convulsive diseases. It is also one of the most eminently characteristic, and at the same time terrible to witness, when it occurs in its severer forms.

The fits, or convulsive seizures, of epilepsy, are most varied as to occurrence; occasionally an individual has suffered from one paroxysm, and one only, the disease never again returning; in other cases, years have intervened; frequently the interval is one of months, but again, daily fits, or even two or three times a-day, are the rule in the worst cases. The attack of epilepsy is for the most part sudden: the individual in the midst of some accustomed occupation, or whilst holding active communion with persons around, suddenly utters a loud—a fearful—cry, and, if unsupported, falls to the ground, the eyes are staring or rolling, the head, or rather chin, is drawn towards one shoulder, the colour becomes dark or livid, the veins of the face and temples turgid with blood, and the features are thrown into convulsive movement; there is froth at the mouth, whilst a kind of choking noise is often made in the throat; the limbs are also more or less convulsed, and the excretions are often expelled involuntarily. The tongue very often suffers from being bitten, and the teeth have even been fractured during the fit. Gradually, these convulsive movements diminish, and the person awakes to consciousness, with a heavy stupid look, or falls into a deep lethargic sleep which continues for some hours; but even when this is roused from, there often remains slight temporary suspension of the activity of the mental functions. Such are the phenomena of a severe epileptic paroxysm; the disease, however, occurs in much milder forms, even in those who at other times suffer from it in greater intensity. A slight temporary unconsciousness may be the only symptom, with or without the slightest approach to convulsive movement, as evidenced by the twitching of a finger, the roll of an eye, or slight spasmodic action of the muscles of the face; the patient may fall gently as in a faint, or remain standing as it were asleep for a few moments. As there is every variety in the nature of the attacks, so is there likewise in their duration: from a few moments, to the average period of from five to eight minutes, but sometimes much longer.

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[*] Typhoid fever and diphtheria may also be endemic temporarily in certain places, owing to bad drainage, &c.

The attack in many cases appears to bystanders to come on suddenly, and without warning; but most epileptic patients are sensible for some time previously of the approach of the paroxysm, and even for twenty-four hours are always aware that a fit is at least probable, although its direct accession may not be certainly known until just previous to its occurrence. It may, however, happen that these symptoms will pass off without a fit, either independent of any effort of the patient to ward off the attack, or in consequence of some of those measures found to be efficacious and adopted by epileptic patients for the purpose.

The premonitory symptoms vary greatly: low spirits, or unusual irritability, sometimes an increased energy, dizziness, noises in the ears, floating specks before the eyes, and many other signs connected with disorder of the nervous system, are the precursors of the epileptic paroxysm; but the most generally marked, and remarked, precedent, is the epileptic "aura," a sort of creeping sensation, which is described by the patient as arising at some particular part of the body, such as the extremity of a limb, and gradually ascending upwards to the trunk or head, till the individual loses his consciousness in the convulsion.

Epileptic seizures are very frequent in the night-time, just as the person is falling asleep; but they may occur at any period of the twenty-four hours, and may be induced by causes affecting the nervous system: the excitement of joy or passion, or the depression of grief, intoxication, and sexual excess are most frequent, not only actual exciters, but also predisposers, to the attack of epilepsy.

Epilepsy may be a congenital disease, that is, the child is born with the tendency, and becomes subject to the fits, either with or without apparent cause, early in life, indeed, many of the convulsions of children occasioned by teething, &c., are in fact epilepsy, but as they arise from causes irritating the brain, and not from affection of the organ itself, they are possibly not repeated when the cause of irritation has subsided. If, however, the tendency exists strongly in the constitution, and has not developed itself before puberty, it is very apt to do so at that period, and more especially if favoured by circumstances which lower the tone of the body generally, or of the nervous system in particular; but no period of life is exempt from becoming the period of epileptic development, even to old age. The following observations of Dr. Bright upon this point are generally instructive, he says:—"There are leading periods in the evolution of the frame, and peculiar circumstances connected with certain periods, which may well be considered as influential in the production of the disease. In infancy, the nervous system is delicate, and easily acted upon by various causes of irritation. Then follows the trying period of teething. In a few years the second dentition occurs. In a few years later all the great changes connected with the age of puberty. To this follow the excesses and exposures of manhood; and after the lapse of years the vigour of the system fails, and many causes act to derange the nice balance of the constitution: the bowels often become sluggish, &c. &c."

A person may die in an epileptic fit, even in the first, but this is seldom the case; more generally the disorder does not immediately threaten life, but the individual goes on from year to year, suffering more or less, and still lives; even when the fits occur daily, or two or three times a-day, this is the case. When death does occur early in the disease, it is more probably due to suffocation arising from the spasm of the muscles of the throat and neck, than to the brain affection. But if life is continued to the confirmed epileptic, too often intellect becomes affected. This may not be palpable after a first seizure, not even after many seizures for many years, not throughout a tolerably long life, but these are exceptions. The generality of epileptics become feebler in intellect, the memory fails, the power of continuous exertion of the mind is lost, and perhaps, at last, the condition ends in mental fatuity.

That epilepsy is due to disease or disorder of the brain and nervous system is unquestionable; the affection either directly originating from them, or through them, in consequence of irritation in some portion of the body. It is well ascertained that hereditary predisposition gives greater effect to causes which have plainly exerted influence in the production of this distressing malady. Dating, either directly or indirectly, from the nervous system, whatever weakens that system tends to cause epilepsy. From this it is evident how well founded the observation is, that there is no more fertile source of epilepsy than the abuse of the sexual organs, particularly in the young. The subject is a painful one, but the direful consequences of vice, with which the merest children become imbued at school, is frequently coming before medical men; unaware of the sin and evil consequences of their acts, they ruin constitutions at the most critical period of life, and lay the foundations of epilepsy and other nervous diseases, which are either quickly developed, or do not show themselves till late in life. The subject is one to which parents and tutors cannot be too strongly alive. Intoxication is a cause of epilepsy, and delirium tremens may be complicated with it. Strong and prolonged mental exertion may induce epilepsy. Fright is another and very frequent existing cause. Worms and irritations in the bowels, indeed, whatever can irritate the nervous system, may induce the disease in question. Imitation, or at least the witnessing an individual in the epileptic paroxysm, has been known to give rise to the fits in others; but they were most likely predisposed, or at all events of nervous and susceptible temperament; for this reason, such persons, young females and children especially, should never if possible be permitted to witness an epileptic fit; the premonitory cry is so terrifying that it has been known to affect even the lower animals.

Of the predisposing causes there is no question that hereditary tendency is a powerful one, and especially if the constitution of the family be scrofulous. Epilepsy in the offspring has been traceable to no other cause than dissipated, and especially drunken, habits in the father. It is frequently observed to be concomitant with malformation, or at least mis-shape, of the head of the sufferer. From what has now been said, it must be evident that epilepsy is no disease for domestic management in a curative point of view, but that it affords much room for preventive and other means.

In families in which a tendency to epilepsy is known to exist, the greatest care should be taken to guard the nervous system from all causes either of irritation or exhaustion. In infancy, the period of teething, and the condition of the bowels, will require special attention, and the tone of the system to be maintained as directed in article "Children." The physical strength and health are to be cultivated in early life, even at some sacrifice of educational advancement; at puberty, the strictest eye must be kept upon the habits and tendencies, and whilst the constitution is developing, and growth going on, all exhausting exercises prevented; indeed, during life the suspicion of a tendency to so terrible an affliction as epilepsy should be a never-forgotten check upon excess in every way—a check upon the man who consumes his energies in the exertions of business or of study, as well as upon those who waste them in the pursuits of vice or sensualism. In addition to passive preventive means, all those measures which are fully laid down throughout this work for the preservation of health should be well attended to, particularly the use of cold water to the head, spine, and surface generally, if there is sufficient re-action to bear the application.

Care must be taken in the curing or suppression of accustomed or long-continued discharges, such as habitual diarrhœa, bleeding from piles, &c.; at the same time it must be borne in mind, that the discharge, by weakening the system, may be itself the cause of the disease; but this is a point which the medical attendant must determine.

Certain precautions are always requisite with those who suffer from epilepsy, and as a general rule it may be laid down that they should never, if possible, place themselves or be placed in situations in which a sudden seizure will expose them to danger. Thus, employments which necessitate riding on horseback, ascending heights, &c., ought never to be engaged in, neither such as those in which even momentary unconsciousness may involve the lives of others in danger. Even the suspicion of epilepsy in a railway official ought to be a disqualifying circumstance. Many, it is true, have sufficient warning to enable them to prepare for the attack, and to withdraw from danger, but this is not always possible; the worst case of burning—or rather roasting—the author ever witnessed, was in consequence of a fall into the fire in an epileptic paroxysm: when means will allow of it, the epileptic ought to have an attendant constantly with them. When an individual is seized with a fit of epilepsy, but little can be done for its immediate relief; the chief thing is to prevent the patient inflicting injury upon himself, by striking against surrounding objects, and also to protect the tongue. Those who are much in attendance upon the epileptic, ought always to have at hand a piece of india rubber, or a thick india rubber ring—such as is used for children teething—to insert between the teeth. All fastening about the body, such as the neckcloth, &c., ought to be loosened, and air freely admitted; the head should be raised, and cold wet cloths *may* be applied to it if there is much heat. It has been advised to cram the mouth full of salt as soon as the fit comes on; Dr. Watson, who had the plan tried in hospital, thought it seemed to curtail the duration of the convulsion.

The treatment of an epileptic patient in the intervals of the fits, *must* be left to a medical man; it involves too many considerations to be advantageously managed by others: when well treated, there is a hope of cure,* and this chance should be afforded to the patient, which can only be certainly done under efficient and educated management; for even with all that skill and attention can do, the disease often proves intractable. The various remedies which have been used in epilepsy, and they have been very numerous, it would serve no good purpose to enumerate here, further than to state, that much benefit has frequently resulted from counter-irritation, such as the introduction of a seton in the neck, or better still, a full and free eruption produced over the shaved scalp, by tartar-emetic and croton-oil ointment, or down the spine, should any tenderness be detected there. It sometimes happens that accidental counter-irritating effects relieve epilepsy, at all events for as long as they are in action. In one case attended by the author, a man who was suffering from daily attacks of epileptic convulsion fractured his leg, and from that time, had no attack for five or six weeks, during the period the accident was being recovered from.

Further, it is well to draw the attention of the reader to the article "Cotyledon." Where the plant is within reach, either of the patient or of friends, there could be no possible objection to its powers being tested, and of them the author can speak favourably. Epilepsy is often a feigned disease, particularly among soldiers and sailors, and also by mendicant impostors. The latter usually choose public places for the exhibition, throw their legs and arms about, foam at the mouth with a little soap mixed with the saliva, and continue their exertions for a much longer time, and with more expenditure of heat, but with less active power than the real epileptic. A real epileptic is not susceptible to pain or sensation; where suspicion exists, therefore, some test of this kind which will not injure may well be tried. Snuff may be put up the nostrils, and if it produces sneezing there is no epilepsy; sometimes the proposal, within hearing of the person, to try some mode of treatment which involves considerable suffering is sufficient to dispel the fit.*

Refer to—*Ablution—Convulsion—Cotyledon—Children, &c.*

EPIPHYSIS—is the extremity of a long bone, such as of the arm or thigh, which is, in the young, connected with the shaft or main portion of the bone, by means of gristle. When such bones are boiled for some time, the epiphysis separates, as may be seen in the case of veal or chickens. In children the epiphysis is sometimes separated by accident attended with violence.

Refer to—*Bone.*

EPISPASTICS—are substances used medicinally for producing inflammation of the skin, which may be followed either by blistering or by the formation of matter. Their action is in fact that treated of under the article "Counter-irritation," which may be referred to.—See also *Blister, &c., &c.*

EPISTAXIS—Bleeding from the nose.—See *Hæmorrhage, Nose, &c.*

EPITHELIUM—is the external layer of a mucous membrane.—See *Mucous Membrane.*

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* The careful regulation of the bowels is of the highest importance. Patients often spontaneously remark that the fits are less frequent when attention is paid to this particular. The application of Chapman's India-rubber ice bags to the spine has been attended with benefit in some cases. It should not be forgotten that it is consistent with the practical experience of most physicians that epileptics improve for a time upon almost every new method of treatment.

EPSOM SALTS—are a compound of magnesia and sulphuric acid—sulphate of magnesia—and derive their name from having been first obtained by the evaporation of the water of a spring, situated near Epsom, in Surrey, which contains the salt in large quantity. They are now prepared largely by manufacturing chemists from magnesian limestone, and also from sea-water. They are sold in the form of small, pure white, needle-like crystals, and from their cheapness are extensively, indeed too much so, used among the poor as a general aperient, and not unfrequently by all classes. Epsom salts are tolerably certain in their action, do not gripe much, and produce free watery evacuation of the bowels; on these accounts the medicine is a most valuable one in many diseases, particularly in persons of a full habit, but, as generally employed, it is not suitable for a common or frequently repeated aperient. From its being in many instances taken in a state of too concentrated solution, it induces a discharge of the watery part of the blood into the bowels, and thus seriously debilitates: moreover, after the action of a dose of Epsom salts, the bowels, in those liable to habitual constipation, are very apt to be left with a greater tendency to inaction than before; nevertheless, in persons of full strong habit, an occasional dose of the medicine is, without question, beneficial, but it should be taken in smaller quantity and much more largely diluted than is usually done. The question of dilution is a very important one in the administration of this salt, and if attended to, renders it safe and efficient even for the comparatively delicate. From half a drachm, or even less, to a drachm, should be dissolved in at least six ounces or half a pint of cold or tepid water, and taken on first rising in the morning, when the dose should be followed by the fluid breakfast: many persons liable to constipation find this method a simple and effectual remedy, which may be used for weeks together. From five to ten drops of dilute sulphuric acid are often a good addition to the dose, and one which at the same time corrects in some degree the bitterness of the salt. If there is debility, either of the stomach, or generally, from a quarter to half a grain, either of quinine or of some salt of iron may be added. The quinine appears to increase the aperient power. The most convenient method of taking Epsom salts in this form is to dissolve one ounce in a pint—sixteen ounces—of water, adding the acid or other ingredients in proper proportion. Of the solution, from half to a whole wine-glassful may be taken the first thing in the morning, diluted with the proper quantity of water before taking, or if preferred, by the latter being drank immediately after the medicine.

The following method for the administration of Epsom salts has been recommended in France:—take of water about sixteen ounces, powder of roasted coffee two and a-half drachms, Epsom salts one ounce; boil well for two minutes—not in a tinned vessel—remove from the fire, and let the mixture infuse for some minutes, so as to allow time for the development of the aroma; then filter, or merely strain off: it must be sweetened to taste. This fluid does not impart the slightest taste of the bitterness of the salt. It should be observed that the *simple infusion* of coffee is not capable of removing the bitter taste.

The combination of Epsom salts with infusion of senna, constituting the common black draught, is one of the best forms of active *occasional* purgative in common use. It is well to bear in mind, that there is considerable resemblance between oxalic acid in its crystalline commercial form and Epsom salts, and that in consequence, fatal mistakes have occurred. The intensely acid taste of a single crystal of the former would at once clear up any doubt; perhaps it might be well always to use so simple a test.

Refer to—*Oxalic Acid*—*Purgatives*—*Senna.*

ERGOT OF RYE—is a peculiar diseased or fungoid growth which is developed upon the seed of the common rye. The affected grain is sometimes called "spurred rye;" from the peculiar curvature of the growth, which varies from half an inch to an inch and a-half in length, is about a quarter of an inch thick, slightly angular in shape, and black in colour. As a remedial adjunct in the hands of the accoucheur, ergot of rye is most valuable, but is scarce likely to form part of the domestic medicine chest. It is more commonly met with on the continent, where much rye is grown, than in this country, and when the grain is largely infected with it, pestilential diseases have been ascribed to the use of the flour in which it has been mixed. It is certain that a peculiar kind of dry mortification of the extremities has followed the prolonged use of grain containing ergot.

Ergot of rye has been used in medicine in hæmorrhagic and other diseases, but chiefly on account of its undoubted action upon the womb. It can only be safely used by medical men.*

ERRHINES—are medicinal substances

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* Ergot of Rye has been much prescribed during the last few years in cases of affection of the spinal cord, [illegible] especially when that organ was thought to be congested.

used as snuff to excite discharge from the lining mucous membrane of the nostrils; they are, in fact, means of counter-irritation, but are not much employed by medical men. In some cases of headache they are useful, and common snuff may be used with as much effect as any of the class.

ERUCTATION—is the rising, either of gas or fluid, into the mouth from the stomach. It is a constant symptom in dyspepsia.[*]

Refer to—*Flatulence.*

ERUPTION—a diseased appearance on the skin.—See *Skin.*

ERYSIPELAS, or St. Anthony's Fire, or The Rose,—is an inflammatory affection of the skin, with or without vesication or blistering, sometimes extending to the cellular tissue beneath. It appears on various parts of the body, but most generally on the head and neck. Unless the attack is very slight indeed, the occurrence of erysipelas is generally ushered in by symptoms of fever, shivering, and headache, furred tongue, perhaps sickness, followed by thirst, hot skin, quick pulse, &c.; at the same time the part first affected, such as the nose, cheek, or ear, becomes stiff, painful, red and swollen, the pain being of a burning character. If unchecked, this inflammation of the skin extends with more or less rapidity, and so rapid indeed is its progress at times, that in a very few hours the whole head and face become enormously swollen. As the disease progresses, blisters resembling those raised by a scald form over the surface, which is intensely hot and red, or purplish; the pain is severe, fever runs high; sore throat is a very frequent accompaniment, and delirium is common.

So serious a disease as erysipelas ought only to be treated by a medical man; but as it is important, if possible, to check it at its first onset, the following measures should be adopted if proper assistance cannot quickly be procured; a disease presenting the symptoms above detailed, must generally be recognisable even by unprofessional persons. There is great diversity of opinion respecting bleeding from the arm in the first onset of erysipelas, but here, as in many other cases, the treatment must hinge upon the constitution of the patient, and not on the name of the disease. Under any circumstances, however, it would not be well for an unprofessional person to use so active a remedy; but if the affected individual be of very full habit, there is no objection to the application of leeches around the inflamed patch, that is, if there is no peculiar tendency to irritation of the skin after the use of leeches. If the tongue is very foul, an emetic may be given, and the bowels freely purged with the calomel and colocynth pill, whilst eighth-of-a-grain doses of tartar emetic may be administered every three or four hours; the diet being kept as low as possible. In weakly persons, a more negative plan should be pursued; the bowels must be more gently acted upon, as by five grains of grey powder, followed in a few hours by some gentle aperient such as castor-oil; effervescing saline draughts should be given—and, indeed, are useful in the former case also—every few hours, whilst all stimulants and animal food are cut off. With respect to local applications, quite the most certain and efficacious is nitrate of silver or lunar caustic, which, if carefully used, may be employed beneficially even by the unprofessional; indeed it is quite possible to imagine a clergyman, for instance, in the country, checking, effectually, a fast-spreading attack of erysipelas, which would, unattended to, gain a dangerous ascendancy before the services of a medical man could be obtained. The lunar caustic is used for two objects, one to check the spread of the inflammation over the skin, and the other to quell the disease—for the first it is best used in the solid stick, for the latter purpose in strong solution.

Erysipelatous inflammation tending to spread may be stopped by surrounding the affected part *entirely* with a cauterized ring; the parts to be touched must in the first place be shaved, if covered with hair, and the skin must always be thoroughly cleansed from its natural oily secretion, by washing with soap and water; it must then be moistened all round, and the stick of caustic drawn slowly and gently over it, so as to make a line of demarcation at least a quarter of an inch broad; but this line must be entire throughout—deficiency in one spot may permit the inflammation to extend by the outlet. It is not asserted that in every case this caustic line will inevitably stop the disease, but it will do so in the majority, if care be taken that it is efficiently done, and that it includes without doubt every portion of the affected skin. When the solution of caustic is to be used to quell the disease, it should be used of the strength of forty grains to two drachms of distilled or rain water. The inflamed surface must be gently cleansed by soap and warm water, and the solution applied all over it by means of a camel-hair brush or a feather. The practice now recommended is perfectly safe, is very efficacious, both as a preventive against the extension, and as a cure of this formidable disease, and might be quite justifiably employed by an intelligent person in the absence of medical assistance. It has, however, the inconvenience of turning the skin to which it is applied perfectly black for some time afterwards, that is, until the outer skin has peeled off, and been replaced by a fresh layer. For this reason it is better in mild cases to have recourse to some of the local remedies yet to be mentioned. It is desirable that persons should be duly impressed with the necessity of cutting or shaving off the hair whenever erysipelas in a severe form extends to parts naturally provided with the covering.

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[*] The following prescription will give relief in the majority of cases:—Nitro-muriatic acid, half-an ounce; distilled water, seven ounces and-a-half. A teaspoonful to be taken in a wine-glassful of water, three times a-day.

In addition to the local treatment by lunar caustic, which the author has always found the most to be depended upon, other applications are used, and may be used, when the other is not procurable, or when the cases are so very mild that it is unnecessary to incur the temporary discolouration of the skin produced by the caustic application.

Flour is a very common and often a good and comfortable local remedy in erysipelas[*] hot fomentations, either of simple water or decoction of poppy heads, *applied continuously for many hours*, by means of flannel, give much relief in some cases; or a lotion composed of twenty grains of sugar of lead, a drachm of laudanum, and sixteen ounces of distilled or rain water may be used slightly warm, and applied by means of linen cloths, with much advantage.

The remedial measures, both local and general, which have now been recommended, ought and may, under intelligent unprofessional management, do much to keep this formidable disease in check until the medical man, whose presence *must be necessary*, can be got. Moreover, there ought not to be much doubt as to the nature of the disease, if the distinctions pointed out in the first part of this article are attended to, and further, many attacks of erysipelas are secondary ones, as persons who have once suffered are liable to do so again.

Much confusion of ideas exists on the part of the public with regard to erysipelas, and many affections of the skin are imagined to be this disease, which do not in the least resemble it. It should be remembered that it is an affection which appears suddenly, tends to spread, and is accompanied with fever; that the affected skin is red, hot, tender, and often blistered.

The causes of erysipelas are numerous: cold and atmospheric vicissitudes, and peculiar conditions of the atmosphere, are all apt to excite an attack, and everything which tends to produce debility, predisposes to it. Wounds and sores often appear to be the first originators of the malady, and in such cases, contagion has much to do with its diffusion through a hospital or a town; even the most trifling scratch being sufficient to become the attraction. For this reason, erysipelas is the most formidable enemy which can gain a footing in a surgical hospital, and for the same reason when the disease occurs in private houses, caution should be observed that persons suffering from wounds do not come into close contact with the affected; and, indeed, in any case, the same precautions should be adopted in erysipelas as in contagious diseases generally. This is doubly requisite in a house in which a confinement is expected, or has recently taken place, for there is an undoubted close connection between erysipelas and fatal child-bed inflammation. The head and neck are the most frequent sites attacked by this disease, but any other portion of the body may be liable to it; the throat not uncommonly suffers, and is a dangerous complication, best treated by the free application of the caustic solution to the tonsils, &c.; it ought to be quickly attended to by a medical man, for death sometimes occurs most unexpectedly from suffocation, in consequence of swelling. Hot bran poultices and mustard plasters externally would perhaps relieve the throat in some degree.

When erysipelatous inflammation extends to the tissue beneath the skin, it constitutes what medical men call "phlegmon;" purulent matter forms, and the parts slough or mortify. In such cases it is usual for the surgeon to cut through the skin to give free exit to the matter, &c., and by the proceeding much relief is afforded; this, of course, unprofessional persons cannot do, and poultices and fomentations must be their resource should it happen, which is not perhaps likely, that a case which has reached this stage has been unvisited by a medical attendant.[†]

Refer to—*Silver, Nitrate of—Skin, &c.*

ERYTHEMA is a more superficial and evanescent inflammation of the skin than erysipelas. The most familiar instance of it is the inflammation produced by the chafing which occurs in stout children, or adults, between the folds of the skin, and which has a tendency to spread from its point of origin. The application of cloths dipped in tepid water, or in the sugar of lead and laudanum lotion, recommended in erysipelas, will allay the burning sensation. A few grains of grey powder should be given at bed-time, followed by castor-oil or senna in the morning, and then quinine administered in doses suited to the age of the patient. Rapidly spreading erythema, even in an infant, quickly yields to small doses of quinine.*

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[*] In erysipelas of the face, some physicians paint over the affected part with a solution of gutta percha in chloroform, to exclude the air.

[†] A very favourite plan of treatment now is the administration of twenty drops of the tincture of the muriate of iron in water, every three or four hours, till the violence of the disease has subsided.

ESCHAR is the portion of "killed" animal tissue which separates from the living body after the application of a caustic or cauterant.

ESCHAROTICS are substances which possess the power of destroying, chemically, the living animal tissues to which they are applied.

Refer to—*Caustic, &c.*

ETHER.—See *Æther.*

EUSTACHIAN TUBE.—The canal which connects the throat with the ear. —See *Ear.*

EXANTHEMATA.—The eruptive febrile diseases, such as scarlet fever, measles, &c.

EXCITEMENT—Excitants, or Stimulants.—To excite, to stimulate, is either to originate action where no action previously existed, or to give increased energy to powers already in active operation. Excitants or stimulants, therefore, are agents which are capable of producing such effects, and excitement is the effect produced. Excitants may be artificially divided into—

I. *Ordinary excitants.*—The regular unceasing action of which is necessary for the preservation of sound health both of mind and body.

II. *Extraordinary or occasional excitants,* which produce a certain amount of temporary exalted action of mind or of body, or of both.

III. *Superfluous excitants,* which are generally those comprised in the second division abused.

Under the head of ordinary excitants we have the following:—

A.—Physical Excitants.

I. Heat.
II. Light.
III. Electricity, Magnetism.
IV. Atmospheric air.
V. Aliment.
VI. Muscular action —Exercise.

B.—Mental Excitants

I. Occupation of the mind with some definite object.

Under the head of extraordinary excitants we have—

A.—Physical Excitants.

I. Alcoholic excitants.
II. Excitant ingesta generally: tea, coffee, spices, drugs, &c.
III. Atmospheric changes.

B.—Mixed Excitants.

I. Sexual stimuli.
II. Extra exercises: dancing and athletic sports.
III. Travelling, and exciting or n scenes.

C.—Mental Excitants.

I. Hope, Joy, &c.
II. Love, Anger, &c.
III. Social intercourse.
IV. Argument, Politics, &c.
V. Music.
VI. Eloquence, written or spoken, citing literature.
VII. Religion.

For the more particular consideratio the above-cited agencies, both as excit and otherwise, the reader is referred to various articles in which they are tre of in this work. From these it will be s that certain *ordinary* physical stimuli, excitants, are necessary for the sustena of human health and life, and that equ important for the preservation of vig not only of mind, but of body, is stimulus resulting from the ordinary regular action and reaction of the min man, originating either in daily interco with his fellows, or in pursuits which tinuously engage the mental powers. further, that the mental and bodily fu tions are at intervals acted upon by o sional or extraordinary stimuli, which t porarily occasion their exalted and incre action; not only without actual injury, with positive benefit. And, lastly, these extraordinary stimuli are not li to lose their power of beneficial stimulat unless exerted in a disorderly and u strained manner.

EXCORIATION.—See *Abrasion.*

EXCRETION.—Anything either su fluous or noxious, separated and thr out from the living body. Excretions consist of noxious and superfluous mat which have been introduced into the culation by the stomach—in the food— through the lungs, or skin; but the bul the excretions consist of "effete" matt that is, of substances which, having fulfi their part in the animal economy, could be retained in it without danger to he or life, and are therefore cast out by s of the outlets specially provided for purpose. The urine is perhaps the specimen of an excretion, and consist water holding in solution mineral s and the used up elementary substance various combinations. One of these c pounds—the urea—is a narcotic poison, if from disease of the kidneys, or o cause, it is retained in the blood, it act such, and kills. The chief constituent excrement from the bowels are matters creted by the large bowel, which canno retained in the body without danger.

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* There is a form of Erythema, called by medical men "Erythema nodosum," to which some persons liable, and which appears chiefly on the legs or arms, in the form of red, flattened, somewhat hard painful swellings. Rest with the limbs raised, and the use of the warm lead and opium lotion, are the local means; as the disease frequently occurs in those of florid habit, the diet generally requires t reduced: a five grain dose of Plummer's pill may be given at bedtime, for three or four nights in success and two tablespoonfuls of the soda and magnesia mixture—See Magnesia—thrice daily.—If the bo are confined, the colocynth and blue pill will be better than Plummer's for persons of strong habit.

kidneys, the bowels, including the liver, the skin, the lungs, are the excretory outlets of the body; and what has been said of the nature of excretions generally, must render evident the paramount importance of keeping these outlets in free operation.

Refer to—*Alimentary Canal—Bile—Blood—Lungs—Skin—Urine, &c.*

EXERCISE.—SPONTANEOUS MUSCULAR MOVEMENT.—The stimulus imparted to the system generally, and to every one of the vital processes particularly, by the excitant power of muscular movement which every healthy man is compelled or ought to undergo, is a fact generally recognized; it is one of those ordinary excitements the agency of which is linked with our happiness and health, and it may almost be said with our existence. A man engaged in active bodily exercise is undergoing a regular course of excitement; his will is stimulating the nervous system to rouse the muscles to action, and in this process both the rouser and the roused are using up their own substance; the acting muscles are sending the blood more quickly through the capillaries and large vessels, and the heart must move more actively to keep pace with them, and transmit the quickly returned blood loaded with effete matter to be purified in the lungs; to preserve the balance, the respirations are increased, and the stomach is stimulated to crave for nourishing food and unstimulating drink, fitted to keep in repair the ever-wearing structures of man's body, and to supply the fluid waste. Baron Liebig has done much to give us clear views respecting the changes which take place within the body under the influence of muscular movements; and from him we learn, that in the expenditure of this force, the substance of the muscles is used—burnt up by the oxygen of the arterial blood, and that this burning up is requisite that the force may be produced.

Exercise, therefore, is in the first place requisite as an ordinary excitant, to be brought into daily operation, that the vigour of all the functions of the body, whether of digestion, or of secretion or excretion, may be preserved; it is the merciful provision by which the decree, that man should earn his bread by the "sweat of his brow," has been converted into a blessing; it is the great compensating balance which gives the labourer sound sleep and healthy appetite and vigour, instead of the wealth which too often seduces to indolence, and palls every enjoyment of life.

Exercise, again, is requisite as an agent with reference to the food consumed. Food is taken to supply the waste of the body which must go on more or less as long as man lives; more if actual exercise is taken, and *vice versâ*. Man ought not, therefore, to expect, if neglecting muscular exercise, that is to use up the substance of his body in exertion, to have the same appetite for and enjoyment of food as if he did; but man does expect this in many instances; he indulges in indolence, and then excites the appetite and stomach by artificial means and tempting food, to take nourishment which is not required, and which *must* consequently produce disorder somewhere. If an individual's employments are of a kind which do not require muscular exertion, his food should be diminished either as regards quality or quantity in due proportion; but even under this regulation, none can be well or vigorous who do not take some amount of exercise in the open air daily.

With regard to extra exercises, such as dancing, and athletic sports generally, which are only engaged in at intervals, it is certain that their beneficial effect upon the functions and health depends quite as much upon the excitement of the mind as upon that of the body; and every one's experience must tell him how much his favourite exercise owes its renovating influence to the mental stimulation which accompanies it.

Refer to—*Blood—Excitement—Food, &c.*

EXHALATION applied to the body, means an excretion in a state of vapour, such as that from the lungs.[*]

EXHAUSTION is the diminished or almost extinguished power, either of the body generally, or of one or more of its organs, to continue its natural active operations, until, it has been recruited by a period of repose. Exhaustion may arise from two principal causes—failure of the nervous power, and deficiency of organized materials fitted to support the requirements of the living body.

If every thought, every exertion of the will upon the body, occasions the consumption of nervous matter, exhaustion of nervous power must in all probability be due to using up of nervous substance. Sooner or later, according to circumstances, every exertion must come to an end, and repose must be taken, that the exhausted brain and nerves may be recruited, and if man acts wisely, he will if possible stop exertion either of mind or body at the first point of exhaustion. It is true that powerful exercise of the will can and does compel exertion beyond the point at which nature says "stop;" but the effort is not made with impunity, and the after exhaustion is proportionally increased. No permanent injury probably arises from those *occasional* exhaustions, either mental or physical, which all have at times to undergo; but no man can habitually go on exhausting his nervous power, whether in the direct service of the mind, in the labours of the body, or in the less excusable requirements of vicious excess, without suffering eventually. The early paralysis and softened brain of the mental, the premature old age of the physical labourer, the wretched decrepitude of the debauchee, are all the results of continued nervous exhaustion. It is not, however, simply the brain and nervous system which suffer, but the other organs of the body, particularly those of nutrition, suffer also, if the supply of nervous power which ought to sustain their healthy actions is withdrawn to support the exhausting efforts either of mind or muscle. Those, therefore, who can, will do wisely to avoid the cause of these evils, but all cannot do this: in many situations of life, continued exertions become absolutely necessary, which carry the individual to the extreme of exhaustion, it becomes a question, therefore, how the evil effects of the necessity may be most efficiently counteracted. This must be done by the proper management of the nourishment. The stomach in such cases is not receiving its full supply of nervous stimulation, and therefore its work must be made as light as possible, consistent with conveying good nourishment into the system; small quantities of food should be taken at once, and more frequently repeated, rather than anything like a meal made. In the majority of instances, the most efficient nourishment will be strong concentrated animal soup, either alone or mixed with some farinaceous material, and next in utility will be coffee or cocoa, along with bread or biscuit, or with the yelk of egg beaten with them. Of course, if these are unattainable, the next best substitute must be used; but the principle must be to keep the system supported by means of repeated small quantities of food, of as nourishing quality, and in as digestible a form as may be; the use of alcoholic stimulants being avoided as long as possible. At length, if the exhausting agencies are still in operation, a time comes when the stimulation of alcohol is eminently serviceable by virtue of its peculiar action upon the nervous system, when it does that to support the bodily powers which nothing else can; and then the draught of porter, or the dose of wine, or of diluted spirit, does come like an elixir of life to "him who is ready to perish."

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[*] The quantity of vapour exhaled from the surface of the body in the course of twenty-four hours is something very considerable, and cannot be checked without danger. The foolish practice of gilding the entire surface of the bodies of children who took part in the Roman triumphal procession was often attended with fatal results.

Refer to—*Alcohol*—*Blood*—*Brain*—*Food* *&c.*

EXFOLIATION—is the separation of scale of dead bone from the living. Th term is applied either to the process itsel or to the separated portion of the bone.

EXPECTORANTS—are a class of medicines which assist the separation and expulsion of mucus from the air tubes or bronch of the lungs. Very many substances ar employed with this view; the most usefu are—

Acids, which astringe and stimulate;
Ammonia, which stimulates;
Ammoniac, which stimulates;
Antimonials, which relax;
Ipecacuanha, which relaxes;
Squill, which stimulates;
Stramonium, or Thorn Apple,
Tolu, which stimulates,
Tobacco,
Vapour, either simple or medicated.*

In whatever way these medicinal substances exert their action upon the body, the most important practical point is the division into relaxing and stimulant. In the first stages of affection of the bronchi with cough, when there is fever, and probably inflammation present, the relaxing expectorants only should be used, either antimony or ipecacuanha; the former may be given with solution of acetate of ammonia, the latter with carbonate of potass; when there is much debility, ammonia combined with camphor is generally employed, and probably squill added. In chronic cough, with difficult expectoration, the same combination may be used, and when there is a relaxed state of the system, with copious expectoration and tendency to perspiration, the acids, either vegetable or mineral, alone or combined with squill, are most serviceable.

The combination of opium or some other anodyne with expectorants is both a common and a useful practice; it allays the irritability of the bronchial membrane and the frequency of the cough, and probably also relaxes spasm; opium, however, tends to stop expectoration, and on this account ought in almost every case—in which it is given to allay cough—to be combined with some counteracting expectorant. More mischief is, perhaps, done with squill, than with any other of this class of remedies; its syrup is much given domestically, and generally too early, whereby both irritation and cough are increased. Tolu syrup is a good and pleasant addition to cough mixtures. Many expectorants act also as emetics, and in so doing, especially in children, frequently assist most efficaciously their expectorant action. Tobacco or thorn apple smoked, or watery vapour inhaled, act directly upon the air-tubes.

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* Expectorants.—A new expectorant, the "Atherespermum moschatum," has lately been introduced; it seems to be useful in old cases of Bronchitis, with difficult expectoration. The dose of the tincture is from half-a-drachm to one drachm in water, twice or thrice daily.

Refer to articles on various expectorant medicines, to—*Catarrh*—*Cough*, *&c.*

EXPECTORATION—is the term applied either to the act of coughing up matters from the lungs, or to the matters so coughed up. These vary greatly in consistence and appearance, and consequently are valuable guides in the investigation of disease affecting the chest; indeed, until the physical examination of the chest by the ear was introduced into practice, the expectorated matters were the most distinctive evidences attainable. Expectoration may be thin and frothy, as it is when the lining membrane of the air-tubes is suffering from irritation or inflammation, or thick and almost solid as it becomes in the last stages of a cold; it may be ropy, as it often is in old people, or viscid in inflammation of the substances of the lungs, when it generally becomes of a dull reddish brown or rust colour; it may consist more or less of purulent matter; or be tuberculous and semi-solid as in pulmonary consumption; it may be mixed more or less with blood, or pure blood may be expectorated, or it may be what is called the prune juice expectoration from its colour, as happens in mortification of the lungs. Generally, expectoration is inodorous, but sometimes it is abominably fœtid, the odour being mostly but not invariably indicative of mortification of the lung itself: other matters, such as bile, &c., are occasionally coughed up.

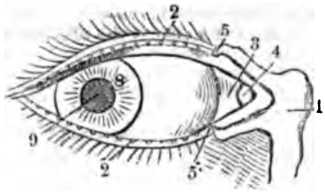
EXPIRATION—is the act of expelling air from the chest after it has been inspired.

EXTRACTS—are medicinal preparations made by separating the active portions of various drugs from the inert ones, this being effected by dissolving out the former, either by water, alcohol or ether, and evaporating the superfluous fluid, until a tolerably firm consistent mass of extract is left. Formerly, heat was used in the evaporation; but as this destroys in some measure the activity of the preparation, the best extracts are now all prepared without any heat whatever, and these should always be purchased in preference. The extracts of aloes, of colocynth, of hemlock, of henbane, of gentian may be used by unprofessional persons. There are many others, but they are either dangerous, or the medicine is better used in other forms.[*]

EYE.—The organ of vision, not only in man but in the lower animals, is an instrument so wonderful, so replete with beautiful structure and admirable contrivance, that it is always alluded to as one of the most, if not the most splendid instance of the power and beneficence of God, as displayed in His physical creation. Its importance to man as an organ of sense, ought to render the study of its construction and adaptations one of intense interest, and must ever render its perfection and preservation an object of the greatest solicitude. The space which can be spared in a work like the present is too limited to do justice to the subject.

The whole apparatus of vision naturally divides itself into two sections—the globe of the eye and the appendages of the globe. The conical-shaped sockets, or orbits, in which the eye globes are suspended, have projecting edges, especially superiorly, which protect the organ from injury; the pent-house of the eye-brow slightly shades from the light, and intercepts perspiration, which might trickle down and irritate; the fringed curtains of the lids are ever ready to close over and instinctively to protect their charge, and on their internal surface secrete a lubricating mucus; on their edges, a series of minute glands—fig. A, 2—open, which secrete an unctuous matter. In the upper and outer angle of the socket lies the lachrymal gland, which furnishes the tears, and is always pouring out a watery fluid which is continually passing over and cleansing the exposed surface of the eye, being taken up at its inner angle, at the points—fig. A, 5—and conveyed through the lachrymal duct—fig. A, 1—into the nose, which it also supplies with moisture. Through this duct also, the membrane which lines the nose is continuous with that—the conjunctiva—which covers the fore part of the eye-globe and lines the lids.

A



In the socket, the eye-globe lies embedded in fat, but is also, as it were, slung in a kind of membrane; it is further both fixed and moved by means of its six muscles—fig. B, 1, 1—four of which pass forwards from the back or apex of the conical cavity to be attached to the globe. The optic nerve—fig. B, 2,—and other nerves and blood-

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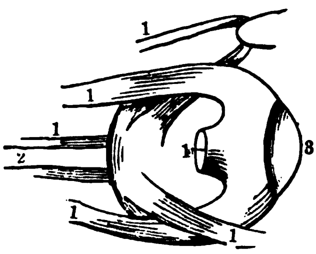
[*] Extracts.—See also articles, Belladonna and Dandelion.—An extract of chamomile is a good preparation, and much used in stomach pills, either alone or combined. Dose,—gr. 5-10.

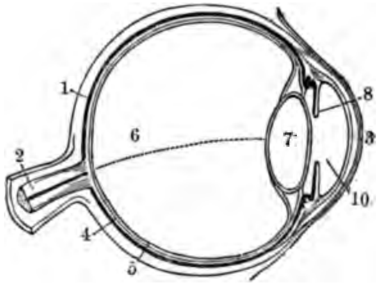
B



vessels, are also contained within the socket, the whole being arranged so as to afford the most facile but at the same time steady movement.

The globe of the eye itself is barely an inch in diameter, and measures longest from before backwards. Its outer coat—called the sclerotic—fig. C, 1—is very firm and is composed of interlaced fibres; anteriorly a portion of it is, as it were, cut out to permit the insertion of the cornea—fig. B, 3 ; C, 3—or glass of the eye; posteriorly it gives passage to the optic nerve—fig. B, 2 ; C, 2. Within the outer coat is the choroid coat—fig. C, 4—of a dark chocolate colour, and within that, the retina or nervous coat—fig. C, 5—which forms the sensitive field of vision. The mass of the globe is filled with a remarkably transparent semi-fluid substance, the vitreous humour, in the fore part of which the crystal lens—fig. C, 7—is imbedded. In front of this, and partly surrounding it, is the iris—fig. C, 8 ; A, 8—the circular aperture in which—fig. A, 9—constitutes the pupil. In front of the lens, between it and the cornea, is the chamber of the aqueous humour—fig. C, 10—so called from the watery fluid with which it is filled. It will be remembered, that the entire fore part of the globe, or white of the eye, and the clear cornea, are covered with the conjunctiva, as already mentioned.

C



To give the sense of vision, the rays of light from surrounding objects penetrate the eye, first by the cornea—fig. C, 3—pass through the aqueous humour, the lens, and the vitreous humour—10, 7, 6—and, in doing so, undergo a series of refractions, which bring them at last into focus in the retina—5—where the picture of external objects is formed, and where the impression is conveyed to the brain by the optic nerve—2. The object of the black or choroid coat—4—being to absorb the superfluous rays of light, which would otherwise be reflected within the eye, and confuse vision.

This rapid, and necessarily imperfect sketch of the construction and functions of the organ of vision will, it is trusted, assist the unprofessional reader in gaining some rational idea of the dangers and diseases to which so important a portion of his frame is liable. The membrane—or conjunctiva—which covers the inside of the lids and white of the eye is, from its exposed situation, liable to become inflamed from various causes. Minute particles of dust, or other substances, getting into the eye, and becoming fixed in the lining of the upper eye-lid, between it and the globe, cause an amount of pain and irritation, which could scarcely be credited from their size, but which is well accounted for by the accurate apposition of the two surfaces between which they lie. A particle so situated, may be discovered without much difficulty, by a second party examining the sufferer with the head thrown back, whilst he slightly everts the upper lid with the thumb and finger. The slightest speck of foreign matter must be removed, and no better instrument can be employed for the purpose than a piece of not over-stiff writing paper, twisted like a match. Those who work in metals are apt to get minute scales imbedded in the fore part of the ball; they cause much irritation, and are often so extremely difficult to remove, that a surgeon's assistance is required. The effect of these mechanical irritations is to cause inflammation of the conjunctiva—see description—this, however, may often arise, and frequently does, from cold, from disorder of the digestive organs, &c. The first symptom of inflammation is a sensation as if a particle of some kind had lodged in the eye, and if an examination be made, there will be seen, not only an enlargement of any small blood-vessels that may be generally visible on the white of the eye, but a new development of others, the appearance varying from the slightest apparent increase of vascularity, to the most intensely red inflammation; at the same time there is considerable increase in the mucous secretion—not in the tears, as is often supposed—and in bad cases this becomes purulent or mixed with matter. There is, sometimes, considerable swelling of the surface usually distinguished as the white of the eye. The above is the most superficial form of inflammation to which the eye is subject: if neglected it may extend itself over the cornea and produce permanent blindness. It is distinguishable from the next form or inflammation of the sclerotic coat by the size and winding character of the small blood-vessels, and by their being slightly moveable along with the conjunctiva itself when the lids are drawn down. It is important that these distinctive characters should be attended to, in the first place that no error may be committed between this form and a more serious and deep-seated inflammation of the eye, but also that proper treatment may be used. A great error is committed in treating this form of inflammation by means of warm fomentations, &c., applications tending rather to keep up than to cure the disease, which is generally quickly removed by astringents. A drop of laudanum or of Battley's solution in the eye, repeated two or three times, will often cure the disorder, or a lotion of sulphate of zinc* from one to three grains to the ounce of water, will be found efficient, but the best of all is the solution of nitrate of silver, or lunar caustic, of the strength of four grains to the ounce of distilled water, as recommended by Dr. Mackenzie. Of this, a single drop may be introduced into the inflamed eye twice or three times in the twenty-four hours. The eye, of course, should be exercised as little as possible, and if the bowels are confined, or the stomach disordered, a few doses of the blue pill and colocynth will be found useful. If the disease is obstinate, a blister to the back of the neck may be applied with advantage.

The disease which has just been treated of, is a comparatively mild disorder, but under certain circumstances it becomes much more virulent; the secretion of matter is very great, and acquires the power of propagating the disease by contagion from one person to another. The well-known Egyptian ophthalmia is of this nature, and is carried from individual to individual by the flies, which, according to travellers, seem to have acquired an instinctive tendency to fly towards the eyes in that country. Newly-born and young infants frequently suffer from a severe form of this ophthalmia, which often shews itself within three days after birth. The inflammation is intense, and the matter often accumulates largely between the lids, gushing out when they are separated; in scrofulous children especially the affection is often obstinate. The nitrate of silver solution is the best application, and small doses of quinine the best internal remedy. Syringing between the lids with a solution of alum—four grains to the ounce of water, six or eight times a-day, is also recommended; a little lard should be used on the edges to prevent sticking together.

In inflammation of the sclerotic or outer coat of the ball itself, there is more actual pain, it is more deeply seated, the redness seen on the white of the eye is more of a pink hue than in the conjunctival affection, the vessels appear much smaller and straighter, radiate as it were from the cornea, and are not moveable: the affection is, moreover, generally a more serious one than the other. The more interior structures of the eye may also become inflamed, and especially the iris; in all these cases of deep inflammation of the eye, the constitution is much affected, there is shivering, followed by thirst, fever, &c.; the pain in the organ itself is often most severe, and extends to the forehead; light cannot be borne. If the iris is the part affected its colour is changed, and often becomes of a dirty brick red; the pupil at the same time is irregular.

In these, and indeed in all affections of so precious an organ as the eye, whenever proper medical treatment is attainable, it should be taken advantage of; if not, supposing symptoms such as those enumerated shew themselves, some active treatment is requisite; leeches should be freely applied to the temples, or behind the ears, or cupping from the back of the neck resorted to; the bowels must be freely purged with calomel and colocynth, &c., in the first instance, and then calomel in two-grain doses, or some other mercurial, given at intervals of six or eight hours; the diet must be reduced as low as possible, all stimulants avoided, every attempt at exertion even of the unaffected eye forbidden, and the person confined to a darkened room, the only local application being continued hot fomentation to the eye and a blister between the shoulders. By a continuation of the above treatment, even till the gums get sore with the mercury, much may be done, supposing circumstances are such that a medical man cannot be procured. If the iris is thought to be affected, some preparation of belladonna—or, in its absence, of henbane—should be employed to keep up dilatation of the pupil. For this purpose, ten grains of the extract should be rubbed up with half an ounce of water, and a few drops introduced into the eye. For information respecting the more chronic affections of the eye, the reader is referred to articles *Amaurosis*, *Cataract*, &c. In some eye-affections the lids are apt to become glued together during sleep by the secretion; this is best prevented by smearing the edges with some simple oil or ointment. The edges of the lids, likewise, are apt to become affected with a succession of small pustules, or abscesses, which often continue to form in spite of treatment, depending probably on some disorder of the digestive organs, which should be attended to; local treatment seems to do but little for their amendment.

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* Various forms of eye douche are now much in use, and are of great service in the application of medicated and simple washes to the eyes. Many ingenious ones may be obtained at the instrument makers. Twinberrow's patent eye douche is one of the best.

The lachrymal sac, or some of its ducts—fig. A—are apt to become the seat of inflammation and to be blocked up in consequence; the tears not escaping by their natural outlet run over the cheek, causing painful excoriation, and the corresponding nostril is dry. The disorder is not only troublesome to bear, but often to manage, and should be seen by a surgeon.

A stye in the eye, or rather eye-lid, is a small abscess, and often gives great pain; it is best treated by fomentations.

Blows on the eye frequently give rise to effusion of blood beneath the conjunctiva, which occasions the white of the eye to become of a deep, almost black, red colour, and to present a very alarming appearance. The state of matters may be distinguished from inflammation by the uniformity of the redness, and by the absence of those characteristic symptoms enumerated above. The eyes frequently assume an "injected" or blood-shot appearance in affections of the brain.

Disordered vision may be the result of causes, such as cataract, &c., which interfere with the transmission of the rays of light, it may also arise from disorder of the digestive organs, and not unfrequently from incipient disease of the brain. Persons who become suddenly and unaccountably affected with disordered vision, should manage themselves as directed in article *Amaurosis*, and get medical advice as speedily as possible.

Refer to—*Amaurosis—Cataract, &c.*

FACE.—See *Countenance, Complexion, &c.*

FACE-ACHE.—See *Neuralgia.*

FÆCES.—The excrement from the bowels.

Refer to—*Alimentary Canal—Digestion, &c.*

FAHRENHEIT—the German inventor of the thermometer which bears his name.—See *Thermometer.*

FAINTING, or SYNCOPE,—is a state of partial, or of total unconsciousness, in consequence of diminished circulation of blood through the brain, the result of depression of the heart's action. Some persons are much more liable to become faint than others, and there is often a good deal of peculiarity with respect to the acting cause. Certain objects of sight will cause some persons to become faint immediately, the most general, probably, being accidents or their consequences, which injure the human body, and cause effusion of blood; certain smells affect others, and cause immediate faintness; even the smell of a rose has been known to have this effect. Affections of the mind, and sudden emotions, debility, habitual or temporary, weakness of the heart itself, loss of blood, or, in fact, whatever depresses the acting power of the central organ of circulation is apt to produce faintness.

A person about to faint becomes affected with ringing in the ears, the sight fails, the ideas are confused, and the mind incapable of exertion, the countenance becomes deadly pale, cold sweat breaks out over the forehead, the power over the limbs either becomes very unsteady or fails altogether, and if actual fainting happens, the individual sinks down, and is really in a condition which much resembles death, and might pass into death.

As said above, the direct cause of fainting is diminished circulation of blood through the brain; it must be obvious, that in the endeavours to restore a person who has fainted, this condition must be altered as quickly as possible; and for this purpose, the individual should be laid quite flat down, the head on a level with the body, so that the feebly acting heart may not have to propel the blood upward, but horizontally. The neck and chest should be exposed, fresh air admitted freely, a little water sprinkled on the face, and stimulant vapours, such as ammonia, held to the nostrils at intervals. Sal volatile or a little spirit or wine and water may be given at the same time.*

It must be remembered that the first period of some apoplectic or paralytic seizures is one of faintness; and also, that where the affection is the consequence of loss of blood, its continuance to some extent may be the safety of the patient. In either case the use of stimulants must be a very cautious one.

Refer to—*Apoplexy—Hæmorrhage, &c.*

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* Friction over the region of the heart with the hand or with a stiff brush is useful in stimulating the action of the flagging organ, and ought at once to be vigorously employed, in conjunction with other means, when there is any difficulty in restoring animation.

FAITH in medicine is one of those strong emotions of the mind which, like hope and despondency, exerts much influence upon the progress of a case of illness, whether it attaches itself to the medical attendant, or to the system of treatment pursued by him. The history of popular delusions connected with the treatment of diseases, is rich in illustration of how far simple faith in some method of treatment which has acquired reputation will add to the apparent curative powers of that method, in consequence of results which are due to that tendency to cure—*vis medicatrix naturæ*—which has no more powerful assistant than the hopeful and trusting, even if mistaken, mind. It sometimes becomes a nice question in medical ethics how far medical men are justified in using this agent in the treatment of their patients. With the intelligent and unprejudiced, a true faith in curative means, grounded in clear understanding of the nature of their case, and the requisite treatment, is always to be preferred to a blind and unreasoning trust, however implicitly given; but amid the ignorant, if they will employ a fomentation more assiduously because it has a few chamomile flowers in it, or such-like; and if it will ensure their greater faith in the treatment generally, it is a concession to prejudice at least, which ought to be made. Many persons err in placing too great reliance—faith—in mere medicines and drugging alone, to the neglect of the equally important general aids in the treatment of disease, so often alluded to in this work. Such persons are not content, and do not think themselves properly "actively" treated if they are not constantly swallowing physic. The error must in a great degree be ascribed—in England at least—to the foolish, absurd, and it may be said, degrading system, which has so long prevailed of making the remuneration for the time and skill of a medical attendant depend upon the price—and that a factitious one—of his drugs. The author cannot refrain from taking advantage of the opening afforded him, by the present work, to the public ear, to assure the public how gladly the whole body of the medical profession would change the system. Many are endeavouring—and, the author can speak from his own experience, successfully—to do so; but still a large proportion of the payments of medical accounts in England are upon the medicines, and disputes for attendance-charges are constantly being made. The man who will insist upon basing his medical attendant's just remuneration upon draughts and mixtures, must probably, in many cases, be content to swallow sufficient to remunerate. This system, in addition to other evils, has engendered a faith in mere drugging as necessary for the cure of disease to the exclusion—and this is the main evil—of other essential aids. The public are in many places becoming alive to the absurdity of the old system, and medical men might by an effort overturn it entirely, and by so doing place both themselves and patients in a better and juster position.

Refer to—*Advice, Medical, &c.*

FALLING SICKNESS, or EPILEPSY.—See *Epilepsy.*

FAMINE.—See *Starvation.*

FARCY.—See *Glanders.*

FARINA—derived from "Far," corn—means literally the meal or flour formed from grain, when ground, and consists, therefore, of starch, gluten, &c.; the word, however, is sometimes applied to the farinaceous matter contained in other vegetable products, such as the potato, when it consists almost entirely of starch or fecula; also in beans, peas, &c. The farinaceous matters, or particles, are contained in a network of cells.—See *Fecula.*

FARINACEA.—Articles of food generally which contain farina.

FARINACEOUS FOOD is an article of diet prepared from one or other of the grains, professedly, in such a manner as to make it easy of digestion. The varieties of the preparation are very numerous; most of them consist of wheat flour baked, with or without the addition of sugar; others contain rice flour, potato-flour, &c. Semolina and semola belong to the class of farinaceous foods, and contain more of the gluten of the grain, in consequence of the greater or less removal of the starchy components, they are more powerfully nutritious than those articles which have the full proportion of starch. Unquestionably, baking the flour must make it a more wholesome article of diet for the infant; but there is no reason why persons should not do this for themselves, and thus avoid the chance of getting an article mixed with other things. Moreover, the sugar is not in all cases a desirable addition.*

Refer to—*Food—Gluten—Grains, &c.*

FASTING.—The remaining without food for a longer period than usual may *sometimes* be a useful proceeding, as a kind of negative remedy, for those who have been living too freely; but even then, abstemiousness, that is, the partaking of a reduced quantity of very plain food, is better than complete denial of aliment. Fasting, as a term, is more properly applicable to a condition in which the desire for food exists. When the appetite fails, as it does in disease, and its failure is a natural indication that the system is not in a fit condition to receive nourishment, it can scarce be said that a person fasts. The power of fasting depends greatly upon habit, constitution, climate, and other contingent circumstances. It has been, and still is, the custom of many nations to take but one meal in the twenty-four hours, but if into that meal must be crowded the entire nutriment required for the body during that space of time, it is needless to remark that for some time after, the individual can be fit for little beyond digesting his food, and that such a division of duties would but ill suit the arrangements of civilized life, even if it could be followed without serious detriment to health. As a general rule, it may be said that it requires more than an average of constitutional vigour to enable an individual in this country and climate to do with but two meals a-day, that is, to fast twelve hours at a time.

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* The articles of diet coming under this head are now so numerous that the reader must be referred to the Appendix for a short account of the most useful.

The consequence of too long fasting is physical exhaustion of the body generally, in which the stomach is involved; consequently, when a person has gone longer than usual without food, especially if undergoing fatigue at the same time, although at the conclusion the system at large requires nourishment, the stomach is so weakened, that it cannot digest a full meal. The inability to fast with impunity is increased the more rapid the changes going on in the system; thus, children and young people tolerate fasting worse than others; and for the same reason, physical exercise or fatigue, which quickens all the usual functions within the body, also renders undue fasting less easily borne, and more injurious. External circumstances, again, such as shelter, clothing, climate, all exert much influence as regards the toleration of fasting. It has been shewn in more than one article in this work, that a certain proportion of the nutriment taken, is required as fuel, that is, as a physical agent, to assist in sustaining the bodily temperature, and it is evident that the less abstraction there is in animal heat—in other words, the better either man or animals are protected from the cold, the less occasion have they for food within a certain limit; and as a necessary inference, fasting may be practised with less injury in a warm than in a cold climate, and such is found to be the case among civilized people. Barbarians, or uncivilized tribes, such as the Esquimaux, who feed to a repletion which would kill other persons—and thus lay in a store of nutriment—are of course exceptional. Pe haps the best instances of the power—no exactly of fasting, but of extreme abstinence is in the runners of northern Africa, wh are said to travel immense distances and a a very rapid rate, with only the sustenanc of a limited portion of gum during th journey. The Arab horses, too, have ofte excited the wonder of travellers from thei powers of endurance on extremely smal supplies of nourishment, when compared at least, with what is required by the sam animal in this country. Hereditary constitution and habit, however, undoubtedl assist the influence of climate.

As a general rule it may be taken, tha entire abstinence from food by persons i health in this country for more than six o eight hours, must, if habitual, be injurious and the more so the younger and mor delicate the constitution. Very many case of stomach disease date from the practice.

The marvellous cases of long fasting which have from time to time been brough before the public, have turned out, on stric investigation, to be impositions, althoug they have served to exemplify the powe of sustaining life on extremely small quantities of nutriment. The power of fasting, without injury, seems to be considerabl increased in cases of insanity, and if it i so in one form of nervous excitement, i may be so in other excited conditions o mind.

The subject of fasting has been treated in this article in an every-day life point o view, as it applies to society generally, more especially at the present day in thi country, and without any reference t Scriptural history, or to those miraculou powers which are recorded, either in th case of our Lord himself, or of holy me of old, when for His good purposes the were imparted; the remarks *are* made t impress the fact that absolute fasting i injurious to the majority, the more so i habitual, and may lay the foundation o disease.

Refer to—*Animal Heat—Blood—Digestio —Food, &c.*

FAT is a compound of three principles, stearine, margarine, and oleine, which a the temperature of the living animal bod are fluid; but when, as after death, th temperature falls, the two former becom solid. The fluid fat is contained in simpl cells of a spherical form, which prevent it being diffused, or falling to the most dependent portions of the body. The use of fat are evidently, partly to form a sof pad or cushion for various parts; but ther can be no question, that it also constitute a store of fuel, or combustible material, for aiding the purposes of animal heat. This is palpable in the case of hybernating animals, which are usually very fat before taking to their winter sleep, but the reverse on waking from it. A certain amount of fat, as a constituent element of the body, is requisite for health, and desirable for appearance; but its accumulation may become so great as to amount to disease, and may become an impediment to the performance of the duties of life as well as a cause of its shortened duration. The following remarks from the high authority of Dr. Chambers ought to be universally diffused. After adverting to a species of "monstrous" obesity, or fatness, which dates from birth, and is generally associated with intellectual deficiency, and fortunately proves fatal before the age of puberty, he remarks:—"When the disease"—that is obesity—"begins in childhood, or about the time of puberty, we must not be deterred by the circumstance of its being hereditary from attempting to remedy the inconvenience arising from it. We cannot truly reduce our patients entirely to the average size and weight; but we may enable them to pass life with comfort and usefulness. The later the disease commences, the more controllable it is by management, until the middle period of life is passed, and then old age impedes in some degree the benefit which we may confer; not by rendering our measures inert, but by preventing our employing them quite so actively as we should have done earlier.*

"The first thing indicated, in all cases, is to cut off as far as possible the supply of material. Fat, oil, butter, should be rigorously interdicted in the diet table. But all eatables contain some portion of oleaginous matter, and especially those most convenient to advise the use of for a lengthened period; and almost all are capable of a transformation into fat, when a small quantity of this substance is previously present. It is desirable, therefore, that the mass of food should lie in the stomach as short a time as possible, in order that at least a fatty fermentation may not be set up in it. Very light meals should be taken at times most favourable to rapid digestion, and should consist of substances easy of solution and assimilation. To this end, the time of the meals should be fixed for an early hour in the day, before exertion has rendered the power of the organs of nutrition languid and weak. Breakfast should consist of dry toast, or what is still better, sea-biscuit; and, if much active exercise is intended, a small piece of lean meat. Dinner at one, on meat with the fat cut off, stale bread or biscuit, and some plain-boiled maccaroni, or biscuit pudding, by way of second course. Liquids should be taken, not at the meal, but half-an-hour after, so as not to impede the action of the gastric juice upon the mass. Here should end the solid feeding for the day; no second dinner or supper should follow, nor, indeed, any more meals be taken sitting down. A piece of biscuit and a glass of water can be taken standing up, if faintness is experienced; a cup of gruel, or roast apple, before going to bed.

"The smallest amount of nutriment consistent with the health of the individual can be found by experiment only; but we need not fear that ten ounces of solid food a-day is too little. It may be remarked, by the way, that it is often advisable to add a small allowance of malt liquor at dinner, as otherwise the craving of the appetite is less easily appeased. The beers to be avoided are of course the thick sweet kinds; but that which is thoroughly fermented, at a low temperature in the Bavarian way, seems to contain very little injurious matter. I do not know that any advice concerning sleep is peculiarly applicable to obese persons, beyond what we should recommend to all classes of men. They are usually uneasy sleepers, and though lethargic, by no means averse to early rising.

"In cases where the fat is largely accumulated in the abdomen, it is very convenient for the patient to wear a band round the cavity, which may be tightened gradually. The support thus given to the abdominal muscles relieves the dragging sensations in the loins which many persons, whose viscera are heavy in proportion to their strength, experience. It enables exercise to be taken with more facility, and appears also, by pressure, to afford some assistance to the absorption of fat. The above remarks will apply equally to all forms of obesity; the abstinence recommended can be borne even by the aged, and only comfort be experienced.

"As respects exercise, however, a distinction requires to be made. The young and vigorous, whose obesity does not prevent the use of their legs, cannot employ them more usefully than in walking as long as they are able. The greater number of hours per day that can be devoted to this exercise, the quicker will be the diminution of bulk. But as riding, by the gentle shaking of the abdomen, excites the secretions of the digestive organs more, it should, where practicable, be employed in addition. Where freedom of motion has once been gained, rowing, shooting—any, or all, of the forms of British gymnastics, should be adopted as regular habits. * * *

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* For an account of the system now so familiarly associated with the name of "Banting," see Appendix.

"Purgatives, I have generally found, not needed in the plethoric form; the bowels usually act once or twice in the day. But in the asthenic obesity of *old people*, where the abdominal walls are weakened by long pressure of an unnatural weight, it is necessary to employ them.

"But there is one class of medicines so universally applicable to *all* cases of obesity that I think a trial should never be omitted. The chemical affinity of alkalies for fat, point them out as appropriate alteratives in this complaint, and experience proves that they are suitable to the state of the digestive organs. The most eligible one is liquor potassæ, and it may be administered in much larger quantities than any other. If given in milk and water we may safely commence with half-a-drachm, and raise the dose to a drachm and a drachm and a-half, three times a-day. The milk covers the taste of the potash better than any other vehicle. It has, truly, the advantage of saponifying a portion of the remedy, but there is no evidence to prove that its efficacy is thereby endangered; indeed, soap itself has been strongly recommended."

Vinegar, which is sometimes foolishly taken largely, with a view to reduce fat, can only do so by disordering the digestive organs.

Food of a fatty nature is generally difficult of digestion.* As a remedy in the cure of disease, the fats of various animals, deer, vipers, &c., were formerly used in medicine. In some cases of irritability or low inflammation of the lining membrane of the stomach, fatty food seems to be serviceable.†

Refer to—*Axunge—Bacon—Digestion—Food, &c.*

FATUITY.—Mental imbecility.

FAVUS.—A peculiar skin disease, generally developed on the head, but occasionally elsewhere, and remarkable from the yellow cupped scabs being the site of development of a minute fungus.

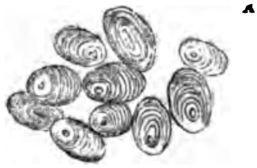
FAUCES.—THE GORGE.—The space and its sides between the back part of the tongue and upper part of the gullet.

FEAR, the exact opposite from faith, is one of those depressing agents which always acts unfavourably in cases of confirmed disease, and lays the person open to the attacks especially of contagious or epidemic maladies. Sudden fear has sometimes acted beneficially, and paralytics have been known to recover the use of their limbs in their efforts under a paroxysm of terror; more generally, however, its operation is the reverse, and many cases of epilepsy, mania, he disease, &c., date from fright. In child particularly of a nervous temperament, influence of fear, either in jest or earn is most sedulously to be avoided. Al all things, care should be taken, that cumstances in which children may placed accidentally; or individuals w whom they may necessarily have to com contact, are not made sources of terror. T is too often practised, and threats of w the "doctor will do," so terrify a ch that when visited in illness, fright quick the pulse, the tongue will not be sho and the sounds of the chest are so obscu by sobs, that it is next to impossible arrive at an accurate judgment of the c Further, if a child has been systematic frightened about the dark, &c., it may accidentally placed in it, suffer serious jury from fright.

FEBRICULA.—A slight fever.

FEBRIFUGE.—Any medicinal ag which has the power of subduing fe The term was much more used in for times than it is now.

FECULA, or STARCH, is a principle u versally diffused throughout the veget kingdom, nearly approaching gum in com sition; it is found in various parts of pla where it is evidently destined to be a st of nutriment for their young or new developed parts; thus, in seeds it nouris the young plant; in tubers, such as potato, the bud shoots; in the sago pa the young leaves. Before, however, it afford suitable nourishment, it must converted into sugar, and this is done the influence of "diastase," a substa already treated of. It need scarcely said that whilst starch fulfils its pecul office as regards the vegetable, it is a no l important provision for animal wants; i in short one of the chief elements of n rishment derived from the vegetable ki dom for the support of animal life. An other examples, arrow-root is nearly p starch. Starch occurs in the form of g nules, which vary considerably in size a shape, according to the tribe of plants fr which they are obtained; of this figs. B, C, D, are instances; these repres



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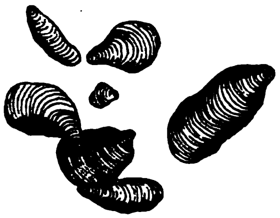
* It has been asserted that patients suffering from, or threatened with consumption, have a dislike fatty articles of diet.

† Fat as an antidote for poisoning by strychnia has been tried by Dr F. Rienderhoff. The effect appe to be produced by the fat (lard, butter, or oil) acting as a check upon the absorption of the poison.—*Ed burgh Medical Journal.*

B



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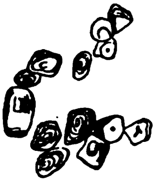

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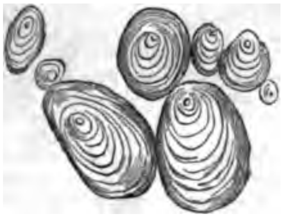

respectively the starch granules of West India arrow-root, East India arrow-root, Tahiti arrow-root, and potato arrow-root,* commonly called British arrow-root. These granules are composed, as represented, of concentric layers, the outer of which, when exposed to a temperature of 160° in water, burst, and allow the inner layers to be dissolved, consequently starch of any kind, after exposure to the above heat, can never be restored to its original condition. It is scarcely requisite to remark, that starch is insoluble in cold water, differing in this respect from gum.

The composition of starch is simple, that is to say, it is made up of carbon and water, or carbon and the components of water, oxygen and hydrogen, but it contains no nitrogen, no earthy matters. From this it is evident that the nourishing power of starch, and of starchy articles of food generally, is limited, that is to say, they cannot yield what they do not possess, nitrogen and earthy salts; but as these are requisite for the full nourishment of every portion of the frame, starchy food, either alone or in too great preponderance, cannot sufficiently nourish the body, particularly during the period of growth. This will bear out remarks made under articles "Arrow-root," "Bread," &c., which show that animals may be starved to death if fed on starch alone, or articles principally composed of starch, and that through ignorance of these facts, infants and children have been seriously injured by the improper regulation of their food. But though starch, and such-like compounds, such as sugar, gum, &c., cannot build up bone and muscle, they can protect them, they can furnish respiratory aliment, or fuel, and also, when not thus required, assist largely in the formation of fat.

Refer to—*Animal Food—Blood—Digestion, &c.*

FEMORAL ARTERY.—The great artery of the thigh.—See *Artery.*

FEMUR.—The thigh-bone.—See *Thigh-bone.*

FERMENTATION is a process of decomposition, or of change, in the relations of the various elements of fermentable bodies. For the action of this process of decomposition or of fermentation, it is indispensable that certain "azotized" substances, named ferments, should be present. These substances all belong to the albuminous principles; bodies which in a *moist* condition putrefy and decompose spontaneously. Thus, a solution of pure sugar will not ferment however long it may be kept; but if a decomposing—putrefying—azotized ferment, either animal matter or vegetable albumen, or gluten, or yeast be added to the solution, the change quickly commences, and goes on until fermentation is complete. Vegetable juices, such as that of the grape and others, and even a solution of brown sugar, take on the process of fermentation spontaneously, because they contain sufficient azotized principles—approaching the putrescible albuminous animal matter in composition—to act as ferments. Milk also takes on a spontaneous process of fermentation for the same reason, but it is not the alcoholic; no gas is evoked, and instead of spirit, a peculiar acid, the "lactic" is generated. Temperature, moreover, exerts much influence upon the process of fermentation, and some juices yield either alcohol or lactic acid according to whether the process is carried on under a low or high temperature. The acetous fermentation or that which results in the production of acetic acid, or vinegar, is carried on in a temperature of from 70° to 85° Fahr., and of course likewise requires the presence of a ferment. A certain amount of moisture and elevation of temperature are essential to the process of fermentation; dryness and cold alike stop the action.

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* *Lancet* Sanitary Commission.

"The identity in composition of the chief constituents of blood, and of the nitrogenized constituents of vegetable food, has certainly furnished, in an unexpected manner, an explanation of the fact, that putrefying blood, white of egg, flesh, and cheese, produce the same effect in a solution of sugar as yeast or ferment."

The explanation is simply this, that ferment or yeast is nothing but a vegetable principle, resembling these animal ones, in a state of decomposition. As it is that modification of sugar only, named grape sugar, which is capable of being converted into alcohol; all fermentable substances, whether containing cane sugar, or starch, must be, and are, as the first step of the process, converted into grape sugar. Antiseptics stop the process of fermentation.

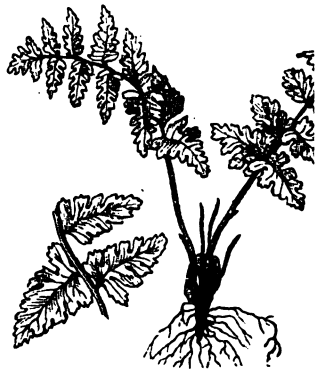
"The maturation, as it is called, or sweetening of winter fruits, when stored up for their preservation in straw, is the result of a true fermentation. Unripe apples and pears contain a considerable amount of starch, which becomes converted into sugar by the nitrogenous constituent of the juice passing into a state of decomposition, and transmitting its own mutations to the particles of starch in contact with it."*

Refer to—*Alcohol—Antiseptic—Vinegar, Yeast, &c.*

FERMENTED LIQUORS,—that is, beverages which have undergone the process of alcoholic fermentation, may almost be considered a natural product of warm climates, from the readiness with which vegetable juices take on the process in these situations. The pure juice of the grape, if left to itself in a suitable temperature, will ferment in a few hours, and the palm-juice of Africa and other tropical countries, and the "pulque" of Mexico, are instances of the same thing. Ancient records, including those of scripture, all tend to shew that fermented liquors have been known and used from the earliest periods. In the present day, the principal fermented liquors in use are—1. Grape wines; 2. Domestic or home-made wine
are for the most part rendered fer
by the addition of sugar; 3. Liquo
from the fermented juice of the
pear; 4. Malt liquors from variou
principally barley. For further
tion the reader is referred to the in
articles on the above subjects,
Drinks, Food, &c.

FERN, or **MALE FERN**,—or as it
in botanical language, the "*Aspidi*
Mas," is a common native plan
principally as a remedy in tape w
until lately too much neglected. I
bable, that if given with the same
precaution, it might not be found
to the now celebrated *Kousso*.† The n
—fig. A—grows chiefly on strong
in slightly-shaded situations; no
tion could guide an unprofessional
botanical person to gather it with
if it cannot be recognised from the
A—but, perhaps the safest plan for
wishing to use it, would be to
plant either collected for him, or
and its distinctive characters poi
by some competent person. Dr. C
gives the following directions :—
which is the part of the plant used
be collected between the end of
the middle of September. It sh
cleared of foreign matters, root fil
old or decayed tufts, but withou
washed. It should then be dried
and thoroughly in the open air
heat, and in the shade; these tufts

A



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* Liebig's Letters on Chemistry.

† Since the above was written, the Author has treated numerous cases of Tapeworm succes
male fern, and there can be no doubt that at the present moment it stands unequalled as a reme
that parasite.

as the parts of the root-stock, which are greenish internally, should alone be detached, and immediately reduced to powder; and the powder must be kept in well-closed bottles." It should not be trusted to when above one year old. The usual dose of the powdered root, is from one to three drachms; but the oil extracted by means of ether is the best preparation, the dose eighteen grains given at night, either in pill, emulsion, or mixed with castor-oil, and repeated again in the morning.* It is better to avoid much food just before taking the dose of either powder or oil, or during their operation, and it is always requisite to follow the last dose taken with some aperient—castor-oil is perhaps the best—two or three hours afterwards. The worms are discharged dead.†

Refer to—*Kousso—Worms, &c.*

FERRUGINOUS—connected with iron.

FETOR—is a bad odour of any kind. In many cases it is the result of the process of putrefactive decomposition or fermentation, and may be developed either on the external or in the internal parts of the body. The use of chlorine, or of chloric ether, in various ways is the best corrective. The mercurial fetor is a peculiar odour, always acquired by the breath when the constitution is sensibly affected with mercury.

Refer to—*Chlorine—Mercury, &c.*

FEVER—is that condition of the body in which the pulse is quickened, the skin hotter than natural, thirst present, and the functions generally disordered. This feverish state of the system may arise from, and be the concomitant of various local and other affections, but it may also constitute a disease in itself, and it is to it in this light that the present article applies.

Further, fever, properly so called, naturally divides itself into intermittent fever or ague, eruptive fever, such as small-pox or measles, hectic fever, and remittent and common continued fever. It is with the two last only we have to do at present, the others fall to be considered under their own heads.

Remittent fever may be regarded as an aggravated form of intermittent fever or ague; it has the regular succession of hot, cold and sweating stages, but the interval between the paroxysms is not characterised by the return to comparative health as it is in the latter. Through most tropical countries, the principal type of fever is the remittent; but the complications of the fever, and consequently its management, vary according to locality. Under these circumstances, it would answer no good end here to devote more space to the subject, further than to advise all who are about to reside in hot climates, to inform themselves thoroughly on this as well as other matters connected with the preservation of health, and also on the nature and management of the diseases in and connected with their future home.

Common continued fever is an affection of the whole system; as described by a medical author of eminence, "It affects the head, the trunk of the body, and the extremities; it affects the circulation, the absorption, and the nervous system; it affects the skin, the muscular fibres, and the membranes; it affects the body and likewise the mind." By medical men this serious disease is subdivided into different varieties and types; but it would serve no good purpose to enter into these here. The management of a disease so gravely important as fever, can never be legitimately undertaken by unprofessional persons if medical assistance is procurable, and as a provision in circumstances when this is absent, the less complicated, both the account of the disease and of its treatment, the more likely is it to be managed with advantage domestically. The first symptoms of incipient fever are usually displayed through the nervous system. The individual feels an unaccountable languor, and complains of headache and shivering, cannot exert the powers either in the duties or pleasures of life, is easily tired, sleep is disturbed, the appetite is impaired, the skin looks dusky, and the eyes heavy, the pulse quickens, and at length the feeling of general illness drives the patient to bed. The attack, however, may commence much more suddenly, a shivering, or, as the people in many places call it, an "ague fit," may be the first symptom; or severe headache, or vomiting, or fainting, or even convulsion may be the first symptom of the impending malady. When fever is fairly established, the pulse ranges above 100, the tongue is furred, probably brownish and dry, sleep is disturbed or supplanted by delirium, the muscular power is diminished and diminishing, and the mind indifferent to passing circumstances; dark incrustations collect about the teeth, the patient sinking down in bed, and perhaps passing the natural evacuations unconsciously, displays the most evident signs of debility. This condition may increase till it terminates in death, or tends towards recovery, either by some marked crisis, such as profuse perspiration, or by an almost imperceptible amendment. Tranquil sleep, improved aspect of the countenance, the skin cooler and with more tendency to moisture, the tongue cleaning at the edges, and a natural desire for food, all give sign that the disease is passing away; on the other hand, if a fatal issue is approaching, the general weakness increases, the patient slips down in the bed in consequence, and lies in a state of dreamy muttering, there is convulsive starting of the fingers or other parts of the body, picking at the bed-clothes, the insensibility to external impressions increases, and probably stupor closes life.

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† A case of tape worm successfully treated by male fern, is recorded in the *Lancet*, for March 6th, 1852.

* It can now be had in the much more convenient form of capsules, containing the oil. The following is an excellent form—Oil of male fern one drachm, Tragacanth powder, qrx., water half an ounce, mix well, then add an ounce and a half of new milk. The patient should live a day without solid food, and take a tablespoonful of castor oil at night, and the above draught early next morning. If the draught does not purge in twelve hours, another dose of castor oil should be taken. It never fails to dislodge the parasite.

Such are the general features of fever, whether simply continued, or when it runs on to the more serious forms of typhoid, or low, or nervous, or malignant fever. There are many other indications which occur, but which it would serve no good purpose to detail here; all that is required is, that the disease should be recognisable, so that its general management may be properly and intelligently conducted, when it falls to the lot of an unprofessional person to have the direction.

In the first place it must be remembered, that for continued fever we have no cure, that is, we have no medicine which we can give with the tolerable certainty of removing the disease, as quinine removes ague; it must be vanquished by the powers of the constitution, by the tendency to health, and our endeavour must be to place these powers in the most favourable condition possible for the struggle, and, where they appear to be insufficient, assist. Sometimes the constitutional power will throw off fever at the very onset. Probably, few medical men have not experienced in their own persons, when attending fever patients, that they had contracted the disease, and that after all its symptoms had been in course of development for four-and-twenty, or even eight-and-forty hours, it has been cast off, probably, by perspiration or diarrhœa, and health restored. From this almost ephemeral attack, to the week after week of continued fever, the disease may be thrown off at any period of its course. A person attacked with fever, ought to be placed in as roomy and well-aired a situation as possible, better even in a barn than in a close or crowded room; the greatest cleanliness as regards everything around must be observed, and perfect quietude; if thirst is present, it should be liberally indulged with simple diluents; if nourishment is taken, it should be given in moderate quantities, and consist principally of milk and farinaceous preparations; grapes, oranges, and ripe fruits, if they do not create flatulence or diarrhœa, are allowable. If the skin is hot and dry, it should b sponged daily, or oftener, with water, and indeed, this practice is beneficial, more o less, in most cases. By these simple mean of management, almost without medicin beyond some gentle aperient at interval to keep the bowels perfectly free of thei necessarily depraved contents, many a cas of fever may be well conducted to a favourable issue, with much more certainty tha under a more meddlesome treatment, car being taken when signs of amendment shev themselves, that there is not too great hurr in giving or permitting strong nourishment

In more serious forms of fever, the sam principle of treatment must be kept in view but more urgent symptoms may call fo more active interference; violent deliriur may require the treatment pointed ou under the article devoted to the subject difficulty of breathing and cough ma render a blister on the chest desirable, o tenderness of the bowels on pressure, particularly in the right iliac region—see *Abdomen*—may call for the application of hal a dozen leeches. Diarrhœa may require t be checked—see *Diarrhœa*—or constipation removed by gentle aperients; castor-oi or rhubarb or senna will generally be foun safest and best, or by clysters. Sleeplessness at night, with convulsive starting c the fingers, may require opium—see *Deliriu* —or the general sinking of the powers the pulse becoming feeble and easily extinguished, may call for the careful an measured administration of wine or brandy or of camphor in milk—see *Camphor*—wit strong meat broth, or gravy, in frequently repeated small quantities. At this tim care must be taken to observe whether urin is passed; if there seems to be difficulty, bag of hot bran on the lower part of th body will possibly make it easier; if i dribbles away[*] means should be taken t protect the back and hips of the patien from being wetted with it. This may b done in various ways, either by waterproo material, or by constant renewal of dr cloths; it is much better effected, however by bags of bran, so placed as to absorb th urine as it comes away. If with ever quart of bran, four ounces of the *dilut* sulphuric acid be mixed, it will neutralize the ammoniacal emanations which s quickly arise wherever urine collects. Ver recently, bags filled with the powder o peat charcoal have been recommended fo the same purpose, and where this articl can be procured, it will probably be superio to any other.

All patients who lie long in fever, becom liable to bed sores, or ulcerations on th prominent parts of the body, which are subject to pressure as they lie; these are, especially, the back and hips, points of the shoulder blades, back of the head, tips of the ears, &c. When these ulcerations form, they not only add materially to the suffering of the patient, but may become the cause of a fatal termination to a case that might otherwise have recovered. They should, if possible, be prevented. The parts named above should be frequently examined, and on the slightest appearance of redness, the skin at the spot should be rubbed with spirit—brandy—or a solution of camphor in spirit. When the skin has actually broken, it may be dressed with simple spermaceti ointment spread on linen; lead plaster spread on soft leather is often useful, or the white of egg beat up with alum —see *Alum*. Both as a preventive and as a remedy after the sores have formed, the parts should be relieved from pressure as much as possible by various arrangements of cushions, &c.[*] the elastic ones made for the purpose being the most suitable.—See *Caoutchouc, Elastic, &c.*

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[*] It should not be forgotten that in some cases there is great and injurious distension of the bladder, requiring relief by the interference of the medical attendant, although the urine is constantly dribbling away from the patient.

Such are the general principles on which a case of fever is to be managed; by attention to them an unprofessional person will be much more likely to do good than by meddlesome interference. Attention to the ventilation of the room, to the perfect cleanliness of the patient and of everything around; a free supply of diluent drinks[†] and care that the bowels are duly, but not forcibly relieved of their always depraved contents, ought to constitute the chief resources of the domestic management of fever.

Again it is repeated, fever is not a disease to be cured, but to be guided to a safe termination. If many of the symptoms which arise, or may arise, in fever, or if minutiæ of treatment are here omitted, it is because either their enumeration would have been useless, or that a judicious reference to various parts of this work will furnish adequate guidance. As regards the causes of fever, the first, "Contagion," has been fully treated of in its special article, and the rest are so fully pointed out in the various sanitary articles, such as "Air" and "Atmosphere," "Bed-room," "Chlorine," "Disinfectant," "Drainage," &c., &c., that it would involve needless repetition to go over them here. They may be summed up: Predisposing—whatever lowers, either temporarily or permanently, the standard of the general health; and Direct—contagion and the products of animal or vegetable decomposition.

Fever in children in this country is more generally of a remittent character than it is in adults.

This article cannot be closed without reference to the employment of *fresh* yeast in cases of fever, particularly of a low, malignant or putrid tendency, in which it is most useful. It is given in table-spoonful doses, repeated every three or four hours.

Refer to—*Ague—Bed-Room—Contagion—Disinfectants—Disease—Debility, &c.*

FIBRINE—is that constituent of the blood which—along with the entangled globules—forms the clot; it also constitutes the fibre of flesh or muscle. It is identical in composition with albumen, to which state it must be reduced in the process of digestion in the stomach, for the purposes of nutrition, but it is in a much more "vitalized" condition than the former substance; in other words, is much more fit to become incorporated with the tissues of the living body.

Refer to—*Albumen—Blood—Digestion—Food, &c.*

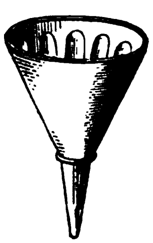
FIBULA.—The small bone of the leg.

FIGS,—the well-known fruit, contain a wholesome and somewhat aperient pulp, but the thick tough rind is indigestible, and should not be eaten.

FILBERTS—are liable to the objection to nuts generally, and are difficult of digestion.

FILTER—is an agent for separating solid impurities from fluids. Filtering papers made for the purpose, or white blotting paper, are most usually used as medical filters, being supported by the well-known funnel or tundish, which ought to be of glass or porcelain, and ribbed inside—fig. A.

A



To make a paper filter, the paper used most be square—fig. B. By the first fold the corners 1, 1, are put together, at the next 2, 2, are put together, thus forming a triangle—1, 3, 2; 1 and 2 are next put together, making a triangle—4, 3, 2; and one more fold—5, 3, 2—completes. The top

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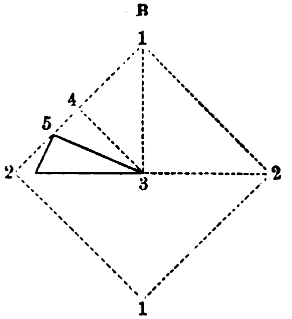
[*] The simplest, and in every respect, the best method, of treating troublesome bed sores, is to smear a little simple ointment, or fresh lard, over one of the India-rubber water-beds or cushions, and lay the sore upon it, *without the intervention of any kind of dressing or non-elastic material whatever.* Care must be taken to keep the sore and the pillow quite clean, and the lard quite fresh.

[†] Refer to drinks.



being squared off, the filter is made, and may be opened out and placed inside the supporting tundish. In filtering through paper, it is always desirable to pass the first few ounces of the fluid through a second time, as a small amount of impurity generally escapes at first. When the solids to be separated by filtration are not in very fine powder; the operation is more quickly done through linen or flannel. Of the various filters sold for the purification of water, it is unnecessary here to speak; but as the purity of that element is one of the essentials for health, and as, in those situations and circumstances in which it is used in its greatest impurity, almost any kind of bought filter is unattainable, the following suggestion from the *Proceedings of the British Association* is most valuable: Any common vessel with a hole below, such as a flower pot, may be used. Its lower portion is to be filled with coarse pebbles, over which is placed a layer of finer ones, and on these a layer of clean coarse sand; on the top of this, a piece of burnt clay, perforated with small holes, should be put, and on this a stratum, three or four inches thick, of *well-burnt* pounded charcoal. A filter thus formed will last a long time, and not only separates solid impurities, but purifies the water, by means of the charcoal, from the putrescent and other noxious substances held in solution, which cannot be separated by ordinary filtration.

Refer to—*Water*.

FINGERS,—from their constant exposure, are liable to many accidents and diseases; fractures, dislocations, whitlow, separation of the nail, all which are treated of under their respective articles; there is, however, one mishap which does not fall under any particular head—

A ring which cannot be removed.—When this occurs, the use of cold to the finger and hand; the hand and arm being elevated at the same time, may cause sufficient shrinking to permit of the removal; if this does not succeed, the following may:—a piece of fine packthread, or linen thread, is to be wrapped evenly and firmly round the finger, from the tip as far as the ring, through which its end is to be inserted, which being done, the packthread must be gradually unwound by means of the end thus placed. If this process does not succeed, the ring should be filed off. It cannot remain without risk.*

FIRE.—See *Heat*.

FISH,—as an article of diet, generally is wholesome; it is neither so nutritive nor so heating as animal food, and on these accounts is often to be permitted when the latter is not.

Fish are classed as fresh-water, salt-water, and shell-fish. Dr. Paris remarks, "Turbot, cod, whiting, haddock, flounder, and sole, are the least heating of the more nutritive species; and the flakiness of the fish, and its opaque appearance after being cooked, may be considered as true indications of its goodness, for when the muscles remain semi-transparent and bluish, after sufficient boiling, we may reject it as inferior in value, and not in season. When fish is in high perfection, there is also a layer of white curdy matter resembling coagulated albumen, interposed between its flakes. The whiting—"the chicken of the sea"—is well adapted for weak stomachs, on account of the little viscidity which it possesses; it is at the same time tender, white and delicate, and conveys sufficient nutriment, with but little stimulus to the system. The haddock is firmer in texture. Cod is not quite so digestible as the two former, but it is nutritious. Turbot is wholesome, *without lobster sauce*. Sole is tender, and yet sufficiently firm; it is, therefore, easy of digestion, and affords proper nutriment to delicate stomachs. Salmon is very nutritious, but, being one of the oily fishes, is less digestible than many others—vinegar in some degree corrects the fault. Eels are always indigestible." From these observations the value of fish may be appreciated, and the qualities which entitle them to election easily understood. Firmness of texture, whiteness of muscle, and the absence of oiliness and viscidity, are the circumstances which render them acceptable to weak stomachs. The flesh of fish contains kreatine—see *Kreatine*. Shell-fish may, without exception, be considered as indigestible. Oysters eaten raw are undoubtedly nutritive, but by some they are not easily digested. Many persons are liable to cutaneous eruptions after the use of some descriptions of shell-fish, and some suffer from diarrhœa.

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* Very useful coverings for the fingers may be had in the India-rubber warehouses. They are of great service to those who have wounds or abrasions upon their fingers, and are much exposed to any source of poisoning from their occupation.

In those places, as the coast of Norway and Sweden, where a diet of fish alone is habitual, the people are very liable to chronic cutaneous disease.

The most wholesome method of cooking fish, is by boiling; frying is not suitable for the invalid. It is well known that certain species of fish are poison at all times, others appear to be so only occasionally, and under peculiar circumstances. Of these, the common mussel has proved more injurious than any others. The oily fishes also, such as salmon, herring, &c., when too long kept, have also given rise to symptoms of irritant poisoning.

Refer to—*Poisons, &c.*

FISTULA—is a canal or passage formed by disease, and healing with difficulty, which opens from the surface of the body. The word fistula, alone, is generally used popularly with reference to the disease when situated at the fundament.

See *Rectum.*

FITS.—The term is applied popularly to any form of convulsion or spasm of the voluntary muscles, such as Epilepsy, Hysteria, and Convulsions generally, either in adults or children. To these heads the reader is referred.

FIXED AIR,—the name given by Dr. Black to carbonic acid gas.

FLANNEL,—a woollen texture, is an article of clothing which should be worn next the skin by every man, woman, and child in this kingdom, and perhaps in every other, notwithstanding its prohibition (!) by Preissnitz, amid other hydropathic regulations. Under the head of flannel, is included, of course, woollen clothing generally. Wool being a bad conductor of heat, is, in consequence, the best protection against sudden vicissitudes of temperature, such as occur in this climate, and also against chills which may supervene upon the profuse perspirations of a warmer one. Of course the thickness of the woollen material worn next the skin, may and ought to be varied, but wool it ought to be, if of no stronger texture than gauze. The experience of our military and naval surgeons all tends to prove that there is no greater preservative from the dysenteric and febrile affections of hot climates than woollen clothing next the skin, and every medical man's experience in this country confirms the fact of its protective power. Notwithstanding, it is astonishing how many carelessly neglect this indispensable article of clothing. Some few persons with extremely irritable skin cannot wear flannel next it; in such cases, a dress of thin cotton should be worn, and flannel over. Flannel should be worn in summer, but of a thin texture.

FLATULENCE, or the collection of gas in the stomach and bowels, is very commonly the result of indigestion; but it is often also the effect of nervous disorder. In the former case, it is probably chiefly due to the extrication of gas from the badly-digested food mass in a state of partial fermentation; in the latter, it is only possible to account for the enormous quantities of "wind" which are discharged, by its formation, "secretion," in the bowels. Towards the termination of fever, and other acute diseases, flatulent distension of the bowels, or "tympanitis" as it is called, is always an unfavourable symptom.

Persons who suffer from flatulence require sedulously to avoid most kinds of vegetable food and fruits; individual experience, however, is the best guide on this head. When a severe attack of flatulence comes on, carminative—See *Carminatives*—and stimulating remedies are generally resorted to, and often prove useful; but in many cases, particularly in nervous individuals, with pale tongue, the mineral acids will often be of more service—either twenty to thirty drops of dilute nitric acid in a wine-glassful of infusion of orange peel, or some other warm bitter, or better still, aromatic sulphuric acid in ten-drop doses in a wine-glassful of water.* In general flatulence of the bowels, with difficulty of expulsion, the clysters of assafœtida, or rue, are most useful.

Refer to—*Children—Clyster—Indigestion.*

FLESH.—The muscular substance of animal bodies composed of fibrine. It is a popular error to suppose that flesh is merely present in the body "as flesh," and it is not understood that every particle of the substance is muscle, and employed as such in the movements of the living body.

Refer to—*Beef—Fibrine—Mutton, &c.*

FLESH-BRUSH.—A brush for brushing the skin.—See *Skin.*

FLOODING.—Hæmorrhage from the womb.—See *Abortion—Child-Bed—Menstruation, &c.*

FLOUR.—See *Grains—Farina.*

FLOWERS OF SULPHUR.—Sublimed sulphur.—See *Sulphur.*

FLUCTUATION, in medical language, is the movement given to fluids in cavities—either natural or diseased—by the fingers of the medical man, whilst at the same time he endeavours to make himself acquainted with the various peculiarities which characterise the collection.

Refer to—*Abscess.*

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* The following formula will be found of service in many cases. Take of Nitro-muriatic acid, half an ounce, of distilled water, seven ounces and a half—mix. A tea-spoonful to be taken in a wine-glassful of water three times a-day.

FLUOR ALBUS.—See *Menstruation*.

FLUX.—An increased discharge from any of the passages of the body, such as the bowels, lined by a mucous membrane. The term has got out of use.

FŒTUS.—The term is applied to the infant from the fifth month till the period of birth.

FOMENTATION is a method of applying heat and moisture to any portion of the body—a most useful remedy, if well done, but so often badly performed, as to do more harm than good; for this reason, a bran-bag poultice, properly made—See *Bran*—is in most cases preferable. When fomentation is to be performed, the bed or clothes should be guarded by some waterproof material if possible.[*] *Two* good-sized pieces of *coarse* flannel are to be employed, one being in preparation whilst the other is in use. The flannel being wrung out of hot water, should be *shaken up loosely*, and laid upon the part under treatment. The size of the flannel must of course be proportioned to the case, but it should be ample. Simple warm water is generally sufficient for fomentation; but in some cases, the decoction of poppy capsules may be more soothing. Other additions are of no service beyond ensuring the greater attention and confidence of many ignorant persons, who will not use, either with care or confidence, so simple an application as water.

Refer to—*Bran—Heat—Poultice, &c.*

FOMITES.—See *Contagion*.

FOOD, that by which the living body is nourished, in its widest sense comprehends both liquid and solid aliment. In the following article, the subject will be considered chiefly with reference to the principles which regulate, or ought to regulate, the food of man, and on which, as far as ascertained, the nutriment of his material frame is conducted. Much special information connected with the subject, is scattered through this work in the papers which treat of the individual articles used as nourishment, and such papers as "Alimentary Canal," "Digestion," &c., bear directly upon it.

Water is not only the medium by means of which most of the operations which go on in living bodies are conducted, but it also enters so largely into the composition of these bodies, that it must be regarded as one of the alimentary principles, a due supply of which is necessary not only for health, but for life; and this supply must be constant, in order to compensate for the loss of moisture which is continually going on from the surfaces, exterior and interior, of the living body.

The food taken by man and animals, has, or ought to have reference in its composition to two distinct ends—the nourishment of the bodily tissues, and the maintenance of animal temperature. Milk is the only single article of diet which in itself contains this essential combination in properly balanced proportion; we know that it is capable, not only of sustaining, but of nourishing in growth the body of the young animal, and thus we have plainly set before us, what He who made and sustains all things has provided as necessary for the sustenance of the creature, when that creature is confined to one means of nourishment solely. In addition to water and saline ingredients, milk contains three distinct sets of principles: the albuminous, represented by the curd; the saccharine—in which is included the farinaceous—represented by the sugar, and the oleaginous, or fatty, by the cream. Of these, the albuminous principles and salts are requisite for the building up of the frame; the saccharine and oleaginous for, so to speak, supplying it with fuel; they are what has been called "respiratory food," because they chiefly furnish materials, carbon and hydrogen, which may combine with the oxygen taken in from the air by the lungs, and burn as it were within the body by a slow and gentle process. It must not, however, be imagined that the saccharine and oleaginous principles are solely devoted to purposes of fuel; they also serve important ends in the nutrition of the body, but as they contain no azote or nitrogen, it is evident they cannot afford proper nutriment to tissues of which this element forms an essential component; they cannot, therefore, form muscle, but they can form fat which contains no nitrogen, and requires none. In truth, the sugar, starch, and probably the fibre and gum of vegetables, must constitute the chief sources for the formation of fat in graminivorous or vegetable feeding animals. The albuminous, the saccharine, and the oleaginous principles must each be taken as the representatives of a peculiar class of substances. Under the head of albuminous principles, falls the caseine, or curd of milk; albumen, as we see it in the egg; and fibrine, as it coagulates from blood, or forms part of animal muscle. These are principles all identical, or nearly so, in composition, but in different states of vital organization; they are composed of carbon, hydrogen, nitrogen, and contain phosphorus and sulphur in small proportions. They are, therefore, adapted to afford due nourishment to such portions of the living animal body as are similarly constituted: the milk curd is the only substance contained in that fluid from which the young animal can form its blood and its muscle; from the albumen of the egg alone all the tissues of the chick are constructed; and the carnivorous animal subsists upon the muscle—flesh—of its victims; these principles are therefore in themselves capable of sustaining life; not so the oleaginous and the saccharine, which represent, the one the fats and oils, and the other the starch or fecula, the sugar, and the gum. These being deficient in nitrogen, in sulphur, and phosphorus, cannot yield them, and therefore an animal fed upon them alone, will die of starvation—as regards certain essential components of its body at least. It was, for long, a paradox, how animals which lived on vegetable food, formed from it the albuminous principles contained within their bodies, because it was thought that in the vegetable kingdom these azotized compounds did not exist. Chemistry of late years has solved the difficulty, by proving that vegetables do contain albuminous principles answering to those found in animal substances; not, it is true, in the same large proportion, but quite sufficient to afford all necessary nourishment, even to the muscular bull or the gigantic elephant. These principles, and indeed their own entire structure, plants elaborate "from carbonic acid, water, and ammonia; that is, from the constituents of the atmosphere, with the addition of sulphur, and of certain constituents of the crust of the earth;" plants therefore may truly be said to produce the blood of animals. Certainly, animals which live upon vegetables have to consume a very much larger bulk of material than animals which live upon flesh; but for this, their habits and the nature of their digestive organs have been arranged by the Creator. Vegetables, therefore, are the original formers of these albuminous principles, which they present ready prepared to the digestive organs of the vegetable eating animal; the latter have simply the task of fitting them for intermixture with the blood, previous to their becoming component constituents of the animal body. In the animal, however, it must be evident that they exist in a much more compact condition than in vegetable substances, and that the flesh-eating animal will require to consume a much smaller proportion of its natural food, than the vegetable feeder. Both classes of animals, however, breathe, that is, take in oxygen by the lungs, which, in maintaining their animal temperature, must combine with respiratory elements—carbon and hydrogen—these the vegetable feeder receives in abundance, in the starch, the saccharine ingredients, the woody fibre, &c., which make up the mass of vegetable substance; sources evidently not open to the animal living on flesh alone. This, it is true, will receive some amount of respiratory food in the fat of its prey; but it will also require to make more violent muscular exertion than the vegetable feeder, so that using up its muscle in so doing it may obtain the carbon and hydrogen—which are contained in muscular substances as well as in other albuminous principles—for the purposes of animal fuel. In accordance with this, we find that the carnivorous animals expend much more muscular force in obtaining their sustenance—in hunting—than the graminivorous animal.

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[*] If this cannot be obtained, a dry flannel ought always to be put over the wet one, to protect the night-dress and bed-clothes.

What is applicable to the food of animals is also to that of man, as regards the nutrient principles; the bodies of both stand upon the same level, but man has the will and the power to consume both vegetable and animal food, either mixed or singly, as may suit his habits. Existence upon animal flesh alone is not common, but it is practicable and practised by the Indians of the South American Pampas, and by many people who live by hunting; but all these, like the carnivorous animal, make long-continued muscular exertion, without which, indeed, under the peculiar diet, they could not preserve health or life. Sir Francis Head relates in his *Journey over the Pampas*, that whilst making immense exertions, he lived for months together exclusively on beef and water; this being the diet of the roamers over these immense plains, who spend most of their time in active exercise on horseback.

Existence upon vegetable food alone is much more common than that upon animal food alone, and, indeed, is the rule with many nations and people, who unquestionably maintain high strength and vigour upon it; it is, in fact, only requisite to look at the grass-eating bull to feel convinced of the possibility of the fact, and did space permit, it would be easy to cite abundant confirmatory examples; but if man lives on vegetables he must, like the vegetable eating animal, consume a comparatively large bulk to obtain sufficient nutriment; and so it is, the Irishman and the Hindoo must eat seven or eight pounds of potatos, or of rice, at a meal. These, however, are extreme instances, for potatos and rice are comparatively innutritious, containing much starch and—especially the latter, when cooked—much water; the cereal grains and pulses, on the other hand, possess albuminous principles largely—the gluten of the former corresponding to the animal fibrine, and the caseine of the latter to the curd of milk. Those persons, therefore, whose vegetable food is composed chiefly of the above, require, of course, to consume less, and there cannot be the slightest doubt that man may lead a most active and healthy life upon a grain diet alone, and especially if it be combined with milk. But what is possible may not always be expedient, nor suited to man's circumstances, and on this hinges the argument respecting the nature of food on which man ought to live. No physiologist would dispute, with those who maintain that man ought to live on vegetables alone, the possibility of his doing so, or that many might not be as well or better under such a system than any other; but no physician acquainted with the requirements and constitutions of men generally, who live according to the usages —certainly it may be allowed too artificial —of this and other civilized countries, will allow that a vegetable diet could become the rule to the majority without serious injury. The healthy active countryman constantly exercised in the open air will do well on a vegetable diet, under which the city artizan or man of business, the delicate female, the pale, perhaps scrofulous, child would become diseased, or sink and die. Their organs of digestion and assimilation cannot extract from the vegetable mass sufficient blood-nourishment, neither do they receive sufficient stimulation from it. It may be contended that the evil is an artificial one, engendered by artificial life; that may or may not be the case, but so the question stands at present, and as man *generally* is circumstanced at the present day, he will best consult his own comfort, convenience, and usefulness, by using a mixed diet, the power to use which has been bestowed upon him by his Creator. He will, if possible, consume albuminous material, animal food in quantity sufficient to supply the waste of his bodily, especially muscular, tissues; but will mingle it with such respiratory food, that is, saccharine, or starchy, and oleaginous substances, as will supply the carbon and hydrogen requisite for animal temperature, without his being compelled to undergo the muscular exertion of the half savage hunter.

In the consideration of the principles which ought to regulate man's food, and which do regulate the nourishment of his material animal body, there has been omitted—for the sake of avoiding confusion—all notice of an important and generally distributed component of the animal frame, the gelatinous, or jelly, principle. This, which enters mainly into the composition of the skin and tendons, and which forms the animal constituent of the bones, belongs to none of the principles already enumerated; and although it contains nitrogen, is much simpler in composition than albumen. In the form of isinglass, gelatine, or glue, it is familiar to all. As gelatine enters largely into the constitution of the animal body, it must, of course, be a valuable, if it is not an essential, addition to its means of nutriment, when taken in the food, and especially as a substitute for albuminous nourishment, which must, in its absence, be used up in supplying nutriment to the azotized gelatinous tissues. The only other constituents of food it remains to notice are the mineral elements—salts of iron, potash, soda, lime, magnesia, &c., and with them, sulphur and phosphorus; these must be, and they generally are, afforded to the system, along with nutriment generally.

To review the principles which regulate food and nourishment: We have vegetables as the first agents for taking up the elementary forms of matter, and combining and transforming them into such components as are suited to the digestive organs of the vegetable subsisting animal which consumes them, and in which they are built up into the blood-filled animal frame, of muscle, nerve, and bone, ready for the consumption of the carnivora, or flesh-eaters, and to yield sustenance suited to the wants of man. We have these nutrient principles, consisting of albuminous compounds, fitted to nourish albuminous tissues, gelatinous to nourish gelatinous, and saccharine and farinaceous to supply the matter of fuel, and to take part in all the other operations of the system, or to be stored up as fat. Lastly, we have water, the aqueous principle, as the necessary medium without which these varied operations could not be carried out.

To apply these principles to man, we find him so constituted as to be able to maintain health and life on animal food alone, or on vegetable food alone, but we also find him fitted by organization to subsist on a mixed diet, such as is most in accordance with the habits and usages of civilized communities like Britain.

In the selection of food, however, it is not sufficient that it contains the principles necessary for the nutriment of the body, but these principles must be reducible by the digestive powers; it matters not that wood fibre nearly approaches starch or gum in composition, or that horn contains albumen largely, if the firm texture is not soluble in the stomach; and the same argument modified, applies to food generally—forms, indeed, that consideration with respect to it which comes under the designation—Diet—that is the facility or the reverse with which certain articles used as food are digested. To the strong and healthy, this is within certain limits a matter of comparative indifference; to those who suffer from weakened digestion—and they are very many—it becomes a matter of paramount importance, as one on which comfort and even life depends. The subject has engaged a large share of the attention of medical men, and is too extensive to be fully treated here; the aim of the author, therefore, is rather to point out the principles on which diet should be regulated, than to descend to special minutiæ, and these he is more willing to omit, from the fact that these minutiæ are greatly matters of individual peculiarity, which vary in each one; and which must and ought to be matters of well-ascertained personal experience.

Thus, we find that some stomachs are perfectly unable to cope with fatty matters, but do well with the acid or saccharine; a certain class again, seem quite at ease with milk, which throws others into a ferment; even mutton, the most digestible of all meats, has, in a case within the author's knowledge, invariably produced vomiting when eaten, however disguised.

It might be expected that something would be said as to the digestibility of various articles; but this is sufficiently treated of under their individual heads, and the tables on the subject which have been drawn up are not to be depended upon. As a general rule, food is digested with more difficulty in proportion to the tenaciousness of its structure, whether owing to natural conformation, or insufficient mastication, or faulty preparation or cooking.—See *Boiling*, *Roasting*, *&c.* Vegetables require more digesting than animal substances, but they remain a shorter time in the stomach itself, undergoing a great portion of the process after they have passed from that organ, whereas animal food leaves it perfectly digested. This is partly the reason why a meal of animal food satisfies hunger longer than one composed of vegetables, but something is also due to the position which the stomach holds with respect to the system generally. If the desire for food is sympathetic with the wants of the body at large, the animal food which better supplies those wants, must do so for a longer period than the other.

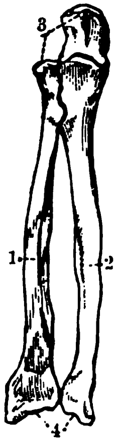
Variety in diet is requisite for health. A single article of nutriment, even though it contain all the requisite elements, can scarcely be long used exclusively as food, without injury to the digestive organs, or even danger to life. Brown bread with water is perhaps an exception. For further information upon food, the reader is referred to the various articles in this work connected with the subject, the substance of which could not have been introduced here without needless repetition and occupation of space which cannot be spared.*

FOOT-BATH.—See *Bath.*

FORCEPS—are instruments used in medical and surgical practice as substitutes for the hands or fingers, not only for the sake of cleanliness, but as being capable of introduction into positions where the hands or fingers cannot go. A pair of the common dressing forceps—see fig.; article Dressing—would be found useful for many purposes in domestic management, if for nothing else than taking off plasters, and it would be well if responsible persons generally, who reside at a distance from medical assistance, were provided with a pair of artery spring forceps. This instrument, which somewhat resembles the other in shape, is provided with a spring catch which keeps its points perfectly closed when required. In many cases of wounds involving the severance of an artery, an unprofessional person could not perhaps employ any means for stopping the bleeding with such probable certainty and ease. Refer to—*Hæmorrhage—Artery.*

FORE-ARM.—The lower arm, between the elbow and the hand. It contains two bones—fig. A. The radius—1—and the

A



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* Refer to Article—Dietaries, in Appendix.

ulna—2. These are articulated or jointed at their upper extremity—3—to the single bone of the arm; at their lower extremities to the small bones of the wrist. The bones in the fore-arm are very often broken, and, of children, are often bent by accident, without fracture.—Refer to *Fracture.*

FOWL.—See *Poultry.*

FOX-GLOVE.—See *Digitalis.*

FRACTURES OF THE BONES—are accidents which, from their nature, can only be treated with certain efficiency and success by the educated surgeon; but on the other hand, from their frequent occurrence, particularly in situations where no surgical assistance can be readily procured, it is highly desirable that unprofessional persons should be able to manage them in something like an intelligent manner.

The existence of fracture is, in some situations, made out with difficulty, even by the skilful; this is particularly the case in the vicinity of joints such as the ankle, hip, shoulder, &c., but in others, as in the middle of the long bones, such as those of the leg, thigh, fore-arm or arm, the fact is often too obvious to be overlooked by the most careless. The general symptoms of fracture having occurred, are pain and loss of power over the injured limb, which is altered in shape or crooked, probably swollen and shortened. Its lower extremity hangs loosely, and is more moveable than it ought to be, motion being generally accompanied with a sensation of grating, perceptible both to the sufferer and to the person handling the limb. The broken ends—generally the upper one—probably project against the skin, or, it may be, protrude entirely through it, constituting a compound fracture. Much of the displacement of the fractured ends of the bone is due to the contraction of some of the muscles of the limb, which are, from the nature of the injury, freed from the controlling counter-action of other muscles. This fact it is important to remember in the treatment, during which, when it can be done without sacrificing too much other essential points, the injured limb should be placed in a position which allows the muscles generally to be in a relaxed condition. In addition to these local signs, a person who has suffered from severe fracture is generally faint and depressed for some time after.

In many cases of fractured bones, however, the symptoms are far from being so plainly marked as described above.

The fracture of a bone is, of course, in itself, a severe injury, but it is rendered infinitely more so, by the wounding and tearing of the soft parts of the limb by the, generally, ragged ends of the bone; this, therefore, it is desirable to prevent, as much as possible, both in removing the sufferer and afterwards.

It being ascertained that a fracture has occurred, if surgical assistance is not immediately at hand, the removal of the sufferer will probably be requisite. If the upper extremity be the part involved, it should be well supported by a sling in the meanwhile, and the sufferer will find walking a much easier and less painful mode of locomotion than any other. Much injury and suffering are often inflicted upon persons who have fractured a lower extremity, by hasty and injudicious management in the removal; the lower end of the limb is left entirely unsupported, or at best, is carried by some of those around, causing thereby great pain, increasing the wounding of the soft parts within, or, it may be, occasioning the protrusion of the bone through the skin; and thus, especially if the last should occur, diminishing greatly the chances of a good recovery. A person who has fractured the leg, if he be not already lying on the ground, should be placed there till a shutter, a door, or flat board of some kind can be procured; this should be placed alongside, covered of course with coats or the like, and the sufferer, gently, rather slid than lifted upon it; on this *he is to be hand-carried*, even if the distance is considerable, as much preferable either to cart or carriage conveyance. Before lifting, however, the fractured limb should be secured from motion as much as possible, either by tying it to the sound one by means of handkerchiefs, or by straw or other material placed about it:* in the meanwhile, a *firm* bed should be prepared for the patient; a mattress is most suitable if procurable, if not, a board of sufficient length, passed under the ordinary bed, will do; the object of this is to prevent the sinking which inevitably occurs from a person lying long in one place in bed, a circumstance which much interferes both with comfort and treatment. The object in view in the treatment of a fractured bone, is to preserve the broken ends in contact, as steadily and as exactly in their proper relative positions as possible, so that the curative and consolidatory process may proceed without disturbance, and that when this is complete the symmetry of the limb may be unaltered. In giving directions as to the management of fractured bones by unprofessional persons, the author feels how difficult the task, of conveying the information, is to himself, and how still more difficult it must be to those unaccustomed to deal with such matters, to treat them at all satisfactorily from a written description; at the same time cases do occur, in which the choice lies only between perfect ignorance and some amount of information of the methods to be adopted. For such cases this article is written; for certainly no sufferer from fracture, in his senses, would submit to, nor any unprofessional person undertake the treatment, if skilled assistance was *in any way* procurable. In addition, the author would strongly advise any who are likely, in their course through life, to be thrown much in out of the way circumstances, and who would wish to be useful, to see for themselves in some hospital the mode of putting up fractured bones. A few hours, even, of observation, would teach them more than all written descriptions, though these might afterwards refresh the memory.

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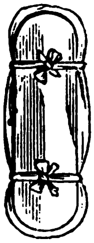
* In most cases of fracture of the leg, relief will be given at once by bending the knee, and placing the leg, lying on its outer side, upon a pillow, or other soft material.

Either after or before the patient is placed in bed, the clothes must be removed, *cut off*, the injured limb; of course by the seams if possible. The proper applications must meanwhile be got ready as quickly as may be. These are, splints, such as are recommended in each particular form of accident, with their cushions and bandages. —See *Bandage*. Some surgeons delay the application of the splints for some days, till the swelling, which always occurs more or less after fracture, has subsided, and some cases may occur in which this is desirable; but the majority of practitioners put the splints on as soon as possible after the accident, and this is certainly the preferable practice. There almost always exists a tendency to spasmodic starting[†] of a limb which has been fractured, for some time after the accident, and this constantly tends to displace the bones, and to increase the laceration and swelling of the soft parts; this may in great measure be prevented by the early steadying of the whole limb by the splint, which, however, need not be bound tightly, and may be so applied as to be loosened at once if requisite.[*]

A splint is simply an agent which can be bound to a fractured limb and which will keep it in the straight position; it may, therefore, be made of wood, iron, leather, or even straw. The variety of splints is very great, but as this article is written for use in situations where only the simplest means are supposed to be at hand, the simplest modes of management only will be adverted to. Moreover, fractures may be treated without splints, properly so called, as by starch bandage or the like, or by position simply. As the continued contact of hard splints would occasion pain, they are usually cushioned or padded; this may be effected by any soft material, care being taken that the padding projects everywhere beyond the edges of the splint, to which it may, if convenient, be attached by tapes—fig. D.

D



Lastly, all things being arranged, the setting of the fracture remains to be effected. This, which is always painful, consists in bringing the broken ends into contact, as much as possible in their proper relative position. In some few cases, as in the leg, it may happen that although there is fracture, there is no displacement; but in the majority of instances the broken ends overlap one another, being drawn by the action of the muscles; the main requisite, therefore, in the reduction of a fracture, is by gentle but steady drawing down of the lower extremity of the limb—whilst the upper is fixed—to bring the ends to a level, and, if possible, place them one against the other; in the drawing down, however, the hand should not grasp the extremity of the fractured bone, but should be applied below the joint. Thus, in setting a fractured thigh, the surgeon grasps the leg, not the lower part of the thigh, &c. After a fracture has been once set, it should never, if possible, be disturbed again. This does not mean that the appliances are not to be removed, and the progress of the case inspected; for if this be not done, and if by any chance the proper position should have been disturbed, the bones may become solidly fixed in an improper manner, and deformity result, or the skin may become ulcerated; but the appliances should not be removed, if possible, before the end of the first week, and if all seems going on well, not moved again for ten days at least, unless for some special purpose. If a fracture is often disturbed or pulled about during the process of consolidation, it may chance that this will only be effected imperfectly, and what is called a false joint formed, that is, the broken part, instead of being firm, moves like a joint, and the limb is useless. It had better be crooked or shortened.

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[*] The elastic splint cushions of M. Bourjeaurd entirely obviate this objection. These are made of vulcanised india rubber, and are inflated with air which can be increased or diminished as required.

[†] This tendency either before or after the application of the splints may be in great measure obviated by pinning a handkerchief over the fractured limb, on both sides, to the bedclothes, so as to keep it perfectly steady.

Lastly, much care is always required that a limb which has been fractured is not used too soon after the accident, otherwise it may either be snapped again, or it may be bent. The first advance towards the cure of a broken bone, is the throwing out of a jelly-like matter around the ends; this gradually becomes more solid, and, at last, is converted into a thick ring of bone; but for this latter change the lapse of some months is requisite: although, therefore, the uniting material, or "callus" as it is called, may be strong enough for ordinary purposes a considerable time before ossification has been effected, it will not bear extraordinary efforts.

With respect to the general treatment of a person who has suffered from fracture, it is always advisable, that for some little time after the accident the diet should be lowered, but that when the inflammatory stage is passed, the individual should return as much as possible to his ordinary food. Care must be taken, if the person has been accustomed to much alcoholic stimulant, that it is not *unduly* abstracted, otherwise the powers of the constitution will be so reduced, that the reparative process cannot take place, and the fracture will remain ununited. In fractures of the lower limbs, the use of a bed-pan and urinal of some kind will be required, and attention must be given to the back, that it does not get sore.* An elastic horse-shoe cushion—see Elastic—will be a great comfort in such cases.

Fractures of the skull have been already alluded to under article *Brain.*

Fracture of the lower jaw is generally tolerably evident. The simplest treatment is that recommended by Professor Fergusson. Two narrow wedges of cork, about an inch and a-half long, a quarter thick at the base, and sloping away to a point, are placed between the teeth, one on each side; a piece of pasteboard softened in water, or of gutta percha, is then to be moulded round the jaw, and fixed, either by a bandage or handkerchief going over the crown of the head. By this method, space is left between the front teeth for the administration of liquid nourishment. The sufferer should rinse the mouth frequently with tincture of myrrh and water.

Fracture of the bones of the spine is a rare accident. It may be suspected, when, after injury to the spine, loss of sensation in, or of power over the part, ensues below the site of the accident. In such a case, nothing could be done by unprofessional persons beyond placing the sufferer in as easy a position as possible.

Fracture of the ribs is known by the pain which is felt at the injured spot in every motion of the body, even by breathing. The sufferer feels a grating sensation, which may be felt by another person laying the hand on the place. The chief risk involved in fractured ribs is from injury to the lungs by the sharp ends of the bone, and when this occurs it is apt to give rise to inflammation, which will require the usual treatment of the affection, from whatever cause arising. On this account, an individual who has suffered from fractured ribs should be especially careful, and for some little time after the accident should reduce his usual diet considerably. The application of the hot bran bag for some days after the accident will afford much relief, and it may be used over the usual bandage. When ribs on both sides of the chest are injured, this, with leeches if requisite, should be the sole application; the patient being confined to bed for at least a fortnight or three weeks in the posture found to be the easiest, which will probably be a half-sitting one, supported by pillows, or some other means. —See "Bed." When the ribs on one side only are injured, less confinement is required, but the chest should be encircled, as firmly as can be borne comfortably, with a band of stout calico, from eight to ten inches wide, and double; this should go once and a-half round, and be sewed; a month will probably be required for the cure.

Fracture of the collar-bone is a frequent accident, usually from falls on the shoulder. It is generally easily detected. As the use of the collar-bone is to keep the shoulder back,—when broken, the shoulder of the injured side falls forward, pushing the broken ends over one another. The object of treatment, therefore, must be to keep back the shoulder by artificial means, until the bone has recovered its solidity. This might be done by keeping a person confined to bed, and in such a position that the weight of the shoulder falling backwards would pull the bone into position without any other means being used; few persons, however, will submit to the confinement necessary, and other methods are resorted to; they are varied, but that recommended by the late Mr. Liston will most easily, and with best prospect of success, be adopted by the unprofessional. A wedge-shaped pad, of any firm material—a pair of stockings folded will do—is to be enveloped in the middle of a soft shawl or handkerchief of suitable size. The pad is then to be placed in the arm-pit of the injured side—fig. A, 1—the ends of the shawl must next be crossed over the opposite shoulder—2—and tied in the arm-pit, as represented; folded cloth of some kind being interposed to prevent fraying of the skin. Another handkerchief or band of some kind is next to be applied—3—so as to bind the arm down to the side in such a manner that the pad in the arm-pit acts as a fulcrum, or gives such a "purchase" as allows the outer end of the broken collar-bone to be pulled outwards, as the arm is bound to the side; a sling enveloping the whole fore-arm is next to be applied, and completes the apparatus, which should be worn for a month at least. If carefully attended to this apparatus will prove very effectual, and the means for it can always be procured. It should be understood that the principle of the treatment is, extending the broken bone by means of the pad in the arm-pit. It is sometimes requisite to apply a bandage from the fingers upwards to prevent swelling.

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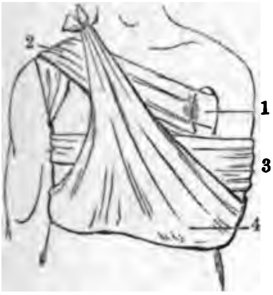
* See Article Fever, for precautions as to this.

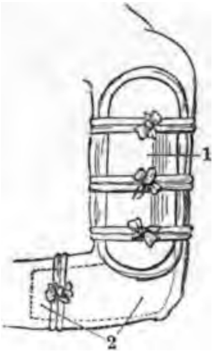
A



Fractures and other injuries about the shoulder-joint are often so obscure that no uneducated person could distinguish them. The best management until surgical assistance can be procured, if it is far distant, will be perfect rest; probably much comfort may be derived from the use of the pad in the arm-pit, as recommended for broken collar-bone, and also of a sling supporting the fore-arm, wholly or only at the wrist, as may be most easy to the patient. The confining band—fig. A, 3—*must not*, however, be used.

In fracture of the shaft of the arm-bone it is better to put the whole limb in a sling at once, and if the person has to *go* to the surgeon, he will find it easier to walk than to ride in any conveyance. Confinement to bed will be requisite for some days at least, after the accident. The injured limb being laid in an easy position on a pillow if there is much swelling, it must be lightly bandaged from the fingers to the shoulder, and a couple of splints of wood or other firm material[*] two and a-half inches wide, applied one on each side the limb—fig. B—1 and secured with just sufficient firmness to prevent movement by means of two or three looped bandages. This bandage—fig. C—is made by taking a doubled length, sufficient for the purpose required, of the common roller bandage; one end, or "tail," of the bandage—1—is passed through the

B



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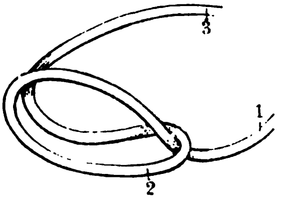

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[*] Pasteboard makes an excellent splint, and is to be found in most houses, in one shape or another, such as a box or the boards of a large book, &c. It should be softened in hot water for a few minutes before it is applied, and when it is removed, it will have moulded itself accurately to the shape of the parts, and will retain that shape when quite firm and hard. It should be padded with cotton, wool, or soft flannel.

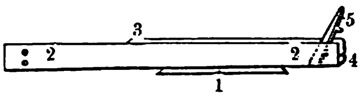
looped extremity—2—and may then be tied to the other tail—3. This form of bandage has the great advantage of being easily loosened if requisite, on account of swelling. After the first few days, when the swelling has subsided, the fracture of the arm may be put up more firmly and permanently. After bandaging the limb tolerably firm, a splint of pasteboard or of gutta percha, or leather, or indeed of any firm material, is to be put on each side of the limb—fig. B. These ought, however, to be shaped as represented by the dotted line—2—to come a little way along the fore-arm, and having been previously shaped on the sound arm, instead of the looped bandage, should be well fixed by means of the common roller, which may be kept from slipping by the addition of starch or paste as it is put on. Instead of the splints, however, the starch bandage alone, if the individual is not very muscular, may be used; but in this case, both the inner and outer bandage must be well saturated with strong starch, flour paste, or gum, or white of egg, and it is well to make the addition of strips of stout paper, pasted down over the inner bandage, and covered by the outer one, to give additional firmness.* In this case, it will be requisite to keep the arm very quiet till the paste has dried, or a wooden splint may be tied outside the bandages till this has taken place. A sling will be requisite to support the hand and wrist, *but not the elbow*, which should be allowed to hang, the weight tending to keep the bone straight.

Fracture of the fore-arm is a very common accident. In children the bones are most frequently partly broken and partly bent; in adults both bones or one only may be broken; in the latter case, the sound bone acts as a splint to hold the other in place; and should the accident be detected, a perfectly straight splint of light wood, applied to the inside of the arm, and extending from the elbow to the tips of the fingers, fixed by a common roller, or by some looped bandages, is all that is required; and, indeed, when both bones are broken, the same treatment will be sufficient, though some apply a splint on each side. After the lapse of a fortnight, in adults, the splints may be taken off, and starch bandage used; but in children who are liable to falls it is better to give them the protection of the wood for some time longer. In fracture of the fore-arm, the sling ought to give support from the elbow to the ends of the fingers, and the limb must of course be kept bent at the elbow during the period of cure.

Fracture of the fingers is treated by a narrow, straight, wood splint, or by starch bandage.

Treatment of a fracture of the lower extremity by an unprofessional person must be a most unfortunate contingency; but the simpler the means used, the more likely will its management be conducted with some efficiency.

F



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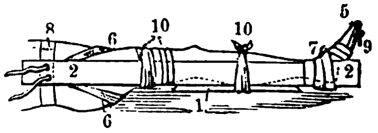

In a case of fracture of the thigh, the removal and preparation of the sufferer having been effected as already pointed out, the following apparatus is such as an unprofessional person might, with a little care, manage efficiently; and the materials for its construction can scarcely ever fail to be procurable. Three pieces of wood, about three-eighths of an inch in thickness, will be required, and the measurement as to length should be made on the sound extremity. One of the pieces must be sufficiently broad to extend completely under the limb, and sufficiently long to extend from just above the middle of the thigh—fig. E, F, 1, 1—to below the calf of the leg, being edged off at either end. The next piece—2, 2—to be fixed on the outer side of the under one, should extend from just above the hip to a little beyond the foot, and must be pierced with two holes at the upper end; the remaining piece—fig. F, 3—should extend from about two-thirds up the thigh, to a little beyond the foot; being fixed to the inner side of the under piece, and connected with the outer piece at the lower end—fig. F, 4—a slanting support for the sole of the foot, and about the same width, being fitted in, so that it will admit of the limb being extended to quite its full length; this being ascertained by measurement of the sound leg. The middle of the apparatus forms a kind of box. A soft handkerchief padded must now be placed between the thighs—fig. E, 6, 6. At this stage the limb must be set. One person should hold the body of the sufferer firmly at the hips, whilst another grasping the leg just above the ankle, by a gentle and steady pull, straightens the injured limb to the same length as the sound one; the broken ends of the bone being by this means brought into contact. The apparatus having been previously well padded with any soft material—even chaff or dried leaves will do—the broken limb, still kept on the stretch, should be gently placed in it. The foot must then be secured to the padded foot-board by means of a bandage or handkerchief—fig. E, 7—the heel being also well supported by the same or some similar application. The heel may be still further supported by means of a double tape sewed to the toe of a sock, previously put upon the foot; the tape being carried over the top of the foot-board, and tied to a nail or peg, fixed to the back. The ends of the band—6, 6—passed between the thighs are to be passed through the holes in the upper part of piece No. 2, and tied with sufficient firmness to keep the limb on the stretch. *This is the essential part of the treatment*—the foot bound to the foot-board, and the band tied through the holes in the upper part of piece 2, act against one another, and keep the limb extended. The upper end of 2, must next be secured by a band—8—passed round the body, and the fixing of the apparatus is complete. It will be well, however, to fill up all the interstices between it and the limb, by means of soft material stuffed in, and when this is done, as a further means of security, to fix one or two bandages or handkerchiefs—10, 10—round both apparatus and limb.

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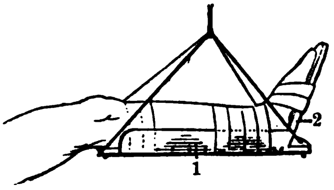
* Plaster of Paris and Dextrine are now much used in the treatment of fractures. The latter, especially in cases of simple fracture, is a very convenient, and at the same time, effectual application, but these methods are scarcely to be attempted by the uninitiated. See Appendix—Dextrine.

The above contrivance is a modification of the one most used by surgeons for the treatment of fractured thigh, but requires much less bandaging, and is, for this reason, preferable. In the usual form of long thigh splint, the entire efficiency of the arrangements depends upon the application of the bandage, and no unprofessional person is likely to put it on properly. The apparatus may be used for fractures of the upper part of the leg, as well as for the thigh. Another simple mode of treating fractures of the lower part of the thigh, or upper part of the leg, is by means of two pieces of wood similar to No. 2, fig. F, but shorter, and a large cloth, such as a table-cloth, in each side of which one of the pieces is to be folded up, until there is just space left to contain the limb, which being set, and placed in the space so left, the boards are to be tied up to it on each side by means of handkerchiefs, or stout tapes. Again, the sound limb may be made to act as a splint to the broken one. Pads of some soft material should be placed between the most prominent points of each, such as the knees, ankles, great toes, &c; and padded bands, two or three yards long, are to be wound round the legs as they are placed together, just above the ankle, and just below the knees. Or the broken thigh may be laid on a pillow, on its outer side in the easiest position for the patient.

Under the former of the two last-mentioned modes of treatment, a short splint, extending the length of the thigh, of wood, tree bark, or any other firm material, may be applied on the outer side, and will give additional support; under the last-mentioned, such a short splint may be used on each side.

In fractures of the leg, particularly of the lower portion of it, a different apparatus must be used, although in many respects the mode of management as regards padding, &c., &c., is the same.* In setting the limb, however, the thigh must be grasped by one person, and the foot by the other. The easiest position for the limb will be with the knee bent—fig. G, H—and either of the contrivances figured may be easily constructed of any common wood. The upper one—G—is merely a board adapted to the size of the limb, with side pieces —1—and foot-board—2—fastened to it, and slung by ropes from the corners, so that it can be suspended, as represented, from a

G



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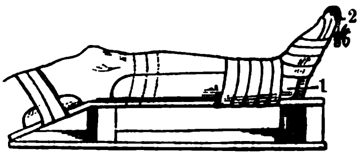

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* For a very effectual and simple method of treatment, devised by the author, and applicable to certain bad cases of fracture of the leg—See Appendix.

rafter or any other convenient support. This is a very easy kind of apparatus, especially on board ship. The other apparatus—H—is also to be constructed from boards, as represented, with side-board and foot-board—1 and 2. In both these, it will be an advantage to scoop out a hollow for the heel, and pad well, equally with the whole contrivance, with soft materials. Reference to the foregoing portions of this article, especially that on fractured thigh, will sufficiently explain the general management of these cases.

To recapitulate: the first removal of a patient who has suffered a fracture should always be conducted with the care enjoined in the first part of this article. The bed for a patient suffering from fracture must always be a firm one. The adjustment and "putting up" of a fracture should be effected as quickly after the accident as may be, allowance being made for swelling, and if this becomes extreme, loosening of the apparatus resorted to. In setting, the bones above and below the injured one, *not the injured one itself*, are to be grasped; parts, such as the heel, &c., are to be relieved as much as possible from the effects of the continued pressure which they must necessarily undergo during the treatment. It must always be borne in mind, that whatever appliances are used in the treatment of fractures, they are all but different means to the one end—that of keeping the broken extremities of the bone in continued steady contact with as much ease to the patient as possible; that when this has been done for three or four weeks, lighter applications than those used at first may be employed, such as the starch bandage, &c.

In conclusion, the foregoing article will be of small benefit to those dwelling in the midst of civilization; but its hints—and our space admits of but little more—may prove invaluable to those dwelling, or who may be destined to dwell, in a thinly-peopled country, or in such situations as on board ship, in which fractures are far from being uncommon accidents. Even if proper assistance be ultimately procurable, the intelligent management of a case for the first few days may be of the highest importance; and if it should happen, that throughout, it has to be left to unprofessional management alone, even should a limb somewhat deficient in symmetry be the result, its cure is not likely to be more tardy or less painful, because those around are not in total ignorance of how it ought to be conducted.

Compound fractures are those in which there is a wound through the skin, permitting access of the external air to the seat of the fracture. The contingency is a truly serious one to be without the assistance of a surgeon. Sometimes the bone protrudes considerably through the skin, and its end requires to be sawn off before it can be returned to its proper position. The great object is to heal the external wound as quickly as possible, and probably as good a plaster as any will be a piece of linen soaked in the blood, and when this is separated by the discharge, the simple water dressing.

FRECKLES — the well-known brown spots on the skin, are most frequent upon those parts exposed to the influence of light, such as the face, neck, hands, &c., and in persons of fair complexion, especially with red hair. Water, weakly acidified with lemon-juice, is sometimes useful as a wash. Mr. Erasmus Wilson recommends the liniment of lime-water and oil, with the addition of a little ammonia.

FRICTION, or rubbing a portion of the body, either with the hand or with some interposed material, is of much importance as a curative agent. Applied to the skin by means of rough towels, hair gloves, &c., it excites its nervous sensibility, and the circulation of blood through its capillary vessels. Friction with the hand in thickenings and congestion of parts beneath the skin is often of much service, and in none is its beneficial effect more obvious, than where the breasts are painfully distended with milk after child-birth. The various oils, &c., used along with friction, are generally secondary in their effects to the mechanical effect, and are chiefly serviceable in facilitating the movement of the hand, some, however, are really beneficial; the stimulant applications by exciting, and the anodyne by soothing; moreover, some, such as cod-liver oil, turpentine, &c., appear to exert a specific effect.[*]

Refer to—*Liniment, &c.*

FRIGHT.—See *Fear.*

FROST.—See *Cold.*

FRUITS. — See the individual articles upon the various fruits.

APPLES — [Omitted in A.]—must be classed among the most wholesome fruits; their prevailing acid is the malic. When perfectly ripe they are wholesome for most persons, but, like fruits generally, should be eaten in the forenoon, and not after a mixed meal of meat and other things. When cooked they are aperient. For the changes which occur in the mellowing of apples and similar fruits in store, see *Fermentation.*

FRYING is a mode of cookery very ill adapted for persons of weak digestion.

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[*] In great emaciation from chronic disease, where exercise cannot be taken, friction, kneading, or shampooing of the muscles of the limbs, is often of service to maintain their nutrition

FUMIGATION.—See *Contagion, Disinfectants, &c.*

FUNCTIONAL DISORDER.—See *Disease.*

FUNGI.—See *Mushrooms.*

FUNIS.—The navel cord.

FUR, as an article of dress, may be either extremely beneficial or the reverse, according to the manner in which it is used. When worn *over* other clothing in the open air, or as a regular *fixed* article of clothing in itself, the bad conducting power of fur renders it one of the most efficient protectors against cold, or rather preservers of heat, we possess; but when it is used as an *occasional* article of dress, it is a dangerous one, and has proved so in the various forms in which it has been worn by females. When kept close to the skin—as of the neck or throat—for any length of time, it produces excited action and perspiration, which is liable to be suddenly checked the moment the boa or victorine is thrown back, and cold and sore throat are the consequences; very many cases of this kind occur, and the cause unsuspected, is repeated again and again with the same effect, laying the foundation perhaps of serious disease by the improper use of the very means employed to guard against it. Many females liable to cold and sore-throat have been surprised how that liability has vanished with the laying aside of the use of fur round the throat. The change must, however, be made at first with caution. It is not, however, the fur which is at fault, but the uncertain mode of using it; moreover, its power of exciting the skin renders it a valuable agent when worn permanently next it, particularly upon the chest in winter, by persons with delicate lungs. It not only protects from cold, but keeps up mild counter-irritation. A prepared hare or rabbit skin, lined, makes as good a fur chest protector as any other.*

Refer to—*Clothing, &c.*

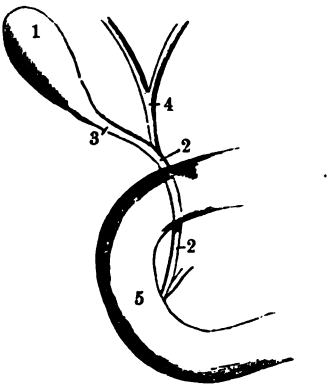
FURUNCLE,—A boil.—See *Boil.*

GALBANUM, one of the gum resins, is procured from an umbelliferous plant, and is brought chiefly from Persia and India. It is stimulant and carminative, but is not much employed in medicine at present. Its best preparations are the plaster, which is stimulating, and the compound galbanum pill—dose, ten grains twice-a-day in nervous affections, flatulence, &c.

GALL.—The bile.†

GALL-BLADDER, the receptacle for the bile, is situated beneath the right lobe of the liver, almost exactly at the boundary line between the epigastric and right hypochondriac region—See *Abdomen.* It is pear shaped — fig. A, 1— from its smaller end proceeds a duct—3— which shortly joins a similar duct from the liver—4—the two together forming the common bile duct—2 —which enters the duodenum—5—in its descending portion. During its retention in the gall-bladder, the bile becomes thicker from the absorption of part of its water.

A



GALL-STONES are concretions formed from the peculiar crystalline ingredient of the bile — the cholesterine. The concretions are of every variety in point of size, up to that of a walnut; when small, the number, either passed by the patient, or found in the gall-bladder after death, is often very great. These concretions may, and often do, exist in the gall-bladder, without giving rise to any unpleasant symptoms; their presence only being discovered on examination after death; but should one of them, from any cause, pass into the duct, it gives rise to most violent spasmodic pain, which continues with little intermission until the stone has descended into the bowel through the ducts.

The ordinary calibre of the gall-duct is about that of a goose-quill, and the stone is generally of much larger size; the operation therefore is often a protracted one.

Symptoms of gall-stone often supervene suddenly; the person is seized with the most agonizing pain in the region of the gall-bladder; probably, there is severe shivering and vomiting, and these do not disappear till the stone has passed; there may or may not be jaundice, probably not, as long as the obstruction does not pass into the common duct—2—and so stop the flow of bile from the liver. If jaundice comes on, the evacuations from the bowels become white and chalky in appearance. The fact of there being no fever present, and that the pain caused by a passing gall-stone is relieved, instead of aggravated, by pressure, is sufficiently indicative of the absence of inflammation. After the occurrence of the above symptoms, it is always proper to examine the evacuations from the bowels, to verify the disease by finding the cause. Gall-stones are easily detected in the evacuations, as they *float* upon water.

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* It is perhaps not generally known that cases of mercurial poisoning occur in those who work as furriers from the fact that solutions of nitrate of mercury, as well as mercurial powders, are extensively used in the dressing of fur of different kinds.

† See Ox Gall.

When an individual is suddenly seized with symptoms of gall-stone, no time should be lost before applying hot applications over the seat of the pain, or getting the sufferer into a warm bath. Opium ought to be given at once; the first preparation at hand—probably laudanum—in full and repeated doses. If laudanum is used, thirty drops may be given immediately, and the dose repeated by twenty drops at a time every half-hour, or oftener, till the unbearable pain is subdued. As the retching is often severe, and liquids of every kind are vomited as soon as taken, pills of solid opium—one grain each—are more likely to be retained, and are therefore preferable; they may not, however, be at hand in an unexpected attack. Persons who are liable to repeated attacks of gall-stone should keep these pills beside them. There is generally much distressing acidity of stomach whilst a gall-stone is passing, and Dr. Prout's plan of giving full and frequently-repeated draughts of hot water, containing in each pint a full tea-spoonful of carbonate of soda, affords much relief, whether vomited or not. Of course laudanum may be added to the soda solution if requisite. If the stomach will not retain the remedies, the opium must be administered by clyster: a pint or more of gruel, with forty drops of laudanum, repeated if requisite. Mustard plasters over the seat of the pain may be useful, but are much inferior as an application to the hot bran poultice, on the surface of which laudanum may be sprinkled.

The suddenness of the attack of gall-stone, and the agony of the pain, render it one of the diseases in which unprofessional persons may afford most valuable assistance by judicious management; and by following the above directions they will certainly give relief, perhaps from many hours of suffering, if medical assistance is distant. A person who has once suffered from gall-stone ought, of course, to be examined medically.

Refer to—*Bile, &c.*

GALLS, or Gall-Nuts, are excrescences produced upon the twigs of a species of shrubby oak, by the prick of an insect for the purpose of depositing its eggs. They are brought from the shores of the Levant, and from Asia. Galls are powerfully astringent, owing to the tannin, or astringent principle they contain, which, in its separated form is now largely used in medical practice.* Gall ointment is a useful application in piles in persons of relaxed or enfeebled constitution, but is quite the reverse in those of full habit, in whom the piles are in a state of active inflammation. The best form, of ointment is:—galls, in very fine powder, two drachms; opium, in powder, one drachm; lard, one ounce; well rubbed up together. Infusion of galls is the best antidote to poisoning by tartrate of antimony.

GALVANISM.—See *Electricity.*

GAMBOGE.—See *Camboge.*

GAME.—Wild animals used as food, the flesh of which is for the most part easily digestible, and suited to many persons on account of the less proportion of fatty or oily substance which it contains. Of course, game, like other articles of food, may be rendered hurtful, by sauces and modes of dressing.

GANGLION, in anatomy, means an aggregation of nerve substance. In surgery, it is applied to the elastic swellings which appear upon the wrist or top of the foot, generally about the size of a hazel nut. These may often be removed by bursting the small bag or cyst of which they consist, and thus effusing the contents—which resemble the white of egg—into the surrounding parts; a bandage being applied afterwards. The case is best submitted to the surgeon.

GANGRENE.—See *Mortification.*

GAPING, or Yawning,—is a nervous affection, indicative of nervous exhaustion and depression of the circulation. Persons in health are, as is well known, liable to gape when tired; like other nervous affections, it is apt to give rise to imitation in others.

Gaping is, however, a not unfrequent symptom of disease—functional or organic—particularly of the chest. Attacks of hysteria accompanied with fainting, or of spasmodic asthma with depression of the action of the heart, are often ushered in by gaping. Persons who suffer from disease of the heart are also liable to "fits of gaping."

GARGLES—are liquid applications to the throat and upper part of the gullet, &c., used in affections of these parts.

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* The British Pharmacopœia contains both lozenges and suppositories of Tannic Acid or Tannin, which are powerfully astringent.

Gargles are too often used as astringents, particularly in the first stage of inflammation of the tonsils, &c., or sore throat. In these cases, the warm water, or gruel gargle, is a much better remedy, with the addition of a small quantity of vinegar. The common domestic gargle of "sage tea and vinegar" answers very well. As a general rule, in the first stages of "sore throat," it is better to use the simple soothing gargles, nearly as warm as can be borne; in the latter stages, when there is often much stringy phlegm about the throat, the more stimulating and astringent gargles will be useful. For the latter, from four to five drops of muriatic acid in the ounce of water is as good a form as any; or the infusion of roses with ten to fifteen drops of dilute sulphuric acid to the ounce. Another very useful gargle in cases of relaxed sore throat, is made with a drachm of alum, half an ounce of tincture of myrrh, and water sufficient to make up the pint. Cayenne pepper infusion is also used as a gargle. —See *Capsicum*. In cases of chronic weakness of the throat, with tendency to frequent swelling and inflammation, a gargle of oak bark decoction, or of salt water, is of much service used every morning for some time. Gargling is effected by throwing the head back, and, consequently, the fluid back in the throat, and expelling the air through it from the lungs; it is thus worked, as it were, into every part of the throat.*

GARLIC.—See *Onion*.

GAS—is an elastic fluid, which is permanently aëriform at all ordinary temperatures, being distinguished from vapours, which are only temporarily elastic and aëriform. The gases alluded to in the course of this work are—

Ammonia.
Azote, or Nitrogen.
Carbonic Acid, and
Carburetted Hydrogen.
Chlorine.
Hydrogen, and
Sulphuretted Hydrogen.
Oxygen.

Refer to separate articles.

GASTRIC JUICE—is the acid viscid fluid secreted in the stomach when that organ is excited by the presence of food; the office of this peculiar secretion being the solution of the nutriment, or rather the reduction of its albuminous and gelatinous portions to a state in which they are fit for absorption into the system.

Refer to—*Digestion—Food—Indigestion.*

GASTRITIS.—See *Stomach, Inflammation of.*

GELATINE, or Glue,—is an azotized component of animal bodies, of simpler constitution than the azotized albuminous compounds.—See *Food*. It may be extracted from tendons, skin, &c., by long boiling, and from bones by dissolving out their earthy matter by acids; it occurs pure in many fishes, the air bladders of which are formed of gelatine; isinglass, so well known as a jelly-making compound, being the prepared swimming or air bladders of the sturgeon, cod, ling, &c. The gelatine sold as such is generally prepared from bones. Many persons have a prejudice against this gelatine, and imagine it not so good as that which they extract from calves' feet, &c. As regards the amount of nutriment, it must be precisely the same, and as there is no reason to believe that the manufacture is otherwise than properly conducted, it is a pity that many should deprive themselves and others of so convenient an addition to sick cookery.—See *Cookery, Food, &c.*

GENERAL HEALTH.—By the term is meant the state of the body and its functions collectively, in contradistinction to the condition of any special portion of the frame. The state of the general health is always an important consideration, with respect to local maladies, both as regards their treatment and ultimate prospects. The latter must always be more serious when the general health begins to suffer.

GENTIAN ROOT—is obtained from the *Gentiana lutea*, or yellow gentian, which is a native of the more elevated ranges of the Alps, Pyrenees, &c. The root is brown externally, irregular, knotty, ringed, and from half an inch to an inch in diameter; it is yellow within. Like the gentians generally it is extremely bitter, and on account of this property, it constitutes one of our most extensively used and most serviceable tonics and stomachics. The most useful medicinal preparations of gentian are, the extract, the infusion, and the compound tincture. The extract is chiefly used in from five to ten grain—or more—doses, as an ingredient in tonic or aperient pills. The compound tincture may be taken in one or two tea-spoonful doses, in water. Quite the best preparation, however, for general use, is the infusion prepared in a concentrated form, according to the following process: To every ounce of sliced gentian root add a quarter of an ounce of dried orange peel, and infuse these—not boil—with successive quantities of boiling water poured over them, until their strength is entirely exhausted. The whole of the infusion thus made, being separated from the root and peel, must next be concentrated by boiling in a well-tinned or porcelain-lined saucepan, until the quantity is so far reduced, that there is left half a pint of the concentrated infusion for every ounce of gentian used. To each half-pint of this concentrated infusion half an ounce of alcohol is to be added. The effect of this addition of spirit is, to coagulate a quantity of jelly-looking substance, which must be separated by straining through flannel. The infusion will thus be got clear, and will keep for a great length of time, the dose being one tea-spoonful in an ounce of water. When the fresh infusion for immediate use is required, a quarter of an ounce of gentian root sliced, with the addition of a little orange peel, to the pint of water, will be a proper strength, if infused for an hour or two.

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* In cases of relaxed throat with white patches, a gargle of Borax dissolved in water is often useful—the addition of a little Cream of Tartar will allow of more borax being dissolved in the water. The foul smell proceeding from certain ulcers of the throat will be removed by gargling with the following:—Solution of Permanganate of Potash, one drachm; water, twelve ounces.

GESTATION.—See *Pregnancy.*

GIDDINESS — Dizziness — in medical language "vertigo," is a sensation of confusion, and loss of the power of balancing the body, which is frequently momentarily experienced even by persons in good general health, and is unquestionably often attributable to stomach derangement solely. Disorder of the circulation of blood in the head is a probable direct cause of giddiness, and this is most palpable after persons have been confined to bed, or to the horizontal position for a short time: on first assuming the erect posture, giddiness is generally experienced. Intoxication is an example to a certain extent of the same thing. A mere passing giddiness is probably owing to some cause which a little attention to the state of the stomach will correct; but repeated attacks, especially if accompanied with palpitation of the heart, or pain and heat about the head, require medical examination without delay.

GIN—the well-known liquor, also known as Geneva, or Hollands, contains oil of juniper, and when first introduced was used simply as a diuretic medicine; it ultimately, however, became an object of trade, and of general—too general—use. It certainly often increases the flow of urine in a marked degree.

GINGER,—the well-known spice, is the creeping root of a tropical plant. That used in Britain is chiefly brought from the East and West Indies. Two kinds of ginger are met with, the dark coated, and the pale peeled ginger; the latter is the best. "The rhizomes, or root pieces, of ginger of good quality, have no epidermis, or outer skin—are plump, of a whitish or faint straw colour, soft and mealy in texture, with a short fracture, exhibiting a reddish resinous zone round the circumference; the taste should be hot, biting, but aromatic. The rhizomes of ginger of inferior quality are frequently coated with epidermis, are less full and plump, often contracted and shrivelled; of darker colour, being of a brownish yellow; of harder texture, termed flinty; and more fibrous, while the taste is inferior and less aromatic." Ginger root is chiefly adulterated by means of processes used to give the inferior quality the appearance of the best; for this purpose, whitewash, chloride of lime, sulphur fumes, &c., are used.

As an aromatic, especially when added to medicines to correct their griping properties, ginger is peculiarly useful. For persons of relaxed habit it is well suited as a spice, but by those of full habit, especially with tendency to the head, it should be sparingly used in diet.

GLANDERS,—the malignant disease to which the horse, the ass, and the mule are subject, is also capable of being communicated to man, certainly by inoculation, perhaps by simple contact with the skin. In the above animals, the disease is manifested by a yellowish, bloody, fœtid, adhesive discharge from the nostrils, the lining membrane of which is ulcerated. Should any of this discharge come in contact with an abrasion of the skin, or even get lodged on the sound skin, as of the hands, or be snorted upon the nostrils or eyes of man, it is capable of originating this horrible disease. In from two days to a week after inoculation, the attack is ushered in with fever symptoms, or by vomiting and diarrhœa, small tumours which ulcerate and discharge form under the skin in various situations, and there is yellow viscid discharge from the nostrils, &c. Almost every case of this fearful disease has proved fatal. The object for mentioning it here, is to impress caution upon all who may be exposed to the contingency. The immediate destruction of an affected animal should, of course, be effected, and its entire body at once buried.

GLANDS—are bodies situated in various parts of the animal frame, their office being either the alteration of some fluid, or the separation of some secretion from the blood; of the former the mesenteric glands.—See *Absorbents, Digestion, &c.*, are examples; of the latter, the liver, salivary glands, &c.

GLAUBER SALT, or Sulphate of Soda,—See *Soda.*

GLOBUS HYSTERICUS.—See *Hysteria.*

GLOTTIS.—The superior opening of the larynx.—See *Larynx.*

GLUTEN—is an azotized principle which exists in the grains, and corresponds to the fibrine of animal bodies; it is, therefore, highly nutritious.—See *Fermentation, Food, Grains, &c.*

GLYCERINE—is a product from fatty matter, and is obtained in the manufacture of lead plaster. It is a fluid of thin syrupy consistence, very sweet taste, faint mawkish smell, and should be like pale sherry in colour, or even lighter. It is now a good deal used in medical practice, on account of its powerful retention of moisture, either alone or mixed with other substances. In diseases of the skin, accompanied with harshness and dryness, a lotion composed of one part of glycerine to fifteen of water is very serviceable. The following lotion, as recommended by Mr. Startin, will be found very serviceable in chapped hands, &c.: Take of pure glycerine half an ounce, borax two scruples, distilled water or rose water enough to make up half a pint. In deafness and affections of the ear it is also used.*

Refer to—*Cerumen—Ear, &c.*

GODFREY'S CORDIAL—is one of the dangerous quack carminatives frequently given to children. It contains opium, and fatal consequences are often the result of its administration. In February of the present year—1852—one fatal case at least, of poisoning by this compound was reported, and it was stated at the inquest, that one teaspoonful of that used would contain five drops of laudanum. The remarks made upon "Dalby's Carminative" apply equally to this legalized but dangerous compound.

GOITRE.—See *Bronchocele.*

GOOSE.—See *Poultry.*

GOOSEBERRY.—One of our most wholesome fruits. It is aperient, and the seeds of ripe gooseberries add to this property, by their mechanical action upon the bowels.

GOULARD EXTRACT—is a saturated solution of sugar of lead, which, when diluted, forms goulard water.

Refer to—*Lead.*

GOUT—is a disease of the blood. Its exact nature is disputed, but it has been positively proved by Dr. Garrod, that the blood of a gouty patient contains an undue quantity of a peculiar acid named uric acid. This acid is contained in small proportion in healthy blood, but in the disease in question, that proportion is found to be considerably increased. By some, the excess of this uric acid is thought to be the effect, by others the cause, of the malady; however that may be, the fact of its presence is undoubted; moreover, the proper outlet for this acid is by the kidneys, in the urine, which, as a rule, contains it in certain proportions, but in greatly increased proportion in some peculiar conditions of the constitution, when it constitutes one form of gravel; it is even a matter of popular observation, that gravel and gout are nearly connected; they often alternate with one another in the same person, and in the same family, are found affecting the various individuals of it; the gout the males, the gravel the females. There is no disease, perhaps, the hereditary tendency to which is more thoroughly established than gout. Generally it occurs in persons of full habit, especially if they consume much stimulating food and drink, and take little exercise, but it also shews itself in the weak and debilitated. The attack is generally preceded by symptoms indicative of derangement of the general health, and particularly of the digestive organs. Dr. Gairdner—one of the best authorities on the subject—enumerates dull pain in the side, headache, confined bowels, high-coloured urine, and scaly eruptions on the skin, as among the most frequent warning symptoms. The attack itself generally comes on in the night, and the sufferer is awakened by the pain in the foot, having, perhaps, previous to awaking, passed through a night-mare or "suggestive" dream—see *Dreams*—in which the scenes are connected with the uneasiness experienced. The ball of the great toe is the part most generally attacked, though not invariably; the pain is very severe. A French author, in describing it, says, "Place your joint in a vice, and screw the vice up until you can endure it no longer; that may represent rheumatism: then give the instrument another twist, and you will obtain a notion of the gout."† The part attacked by the gout becomes swollen, hot, red or bluish red, and shining; these symptoms continue with more or less intensity for some days, and then subside. Along with the local symptoms, there occurs more or less feverishness and disorder of the bowels and urine, but when the attack has passed away, the individual is left in a better state of health than before. This fact has given rise to many erroneous ideas, and much erroneous practice in connection with gout, and by those subject to it; regarding it as a salutary affection, they have rather encouraged it than otherwise—the more so that the encouragement involves indulgence, rather than self-denial—forgetful, that although the outward manifestation of a fit of gout may end in a salutary effect, from its being the disturbance occasioned by the constitution endeavouring to free itself from morbid matter; it must be far better if no such disturbing effort is required at all, and further it is certain, that no *constitution can be the subject of these repeated, violent perturbations, without its becoming permanently weakened, or wholly broken up.* Let none, therefore, who have a gouty tendency, and are periodically renovated, as it were, lull themselves into security by the idea that they suffer no injury, for the constitution cannot fail to be impaired by the repeated trials. Their only security rests with themselves, in avoiding those habits and modes of life which engender that state of system and blood that winds up with a fit of the gout. Moreover, although these fits may at first be more painful than dangerous, this is far from being the case as life advances, and the constitution suffers; then gout may, and often does, attack some more important part than the great toe; and the stomach, the heart, or brain, are apt to become its seat with fatal consequences.

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† Watson's Lectures.

* For further information as to Glycerine, see Appendix.

GOAT'S MILK is an excellent nutritious article of food in certain cases of great debility, and especially in consumption, where there is disease of the bowels. It may be made artificially as follows:—"Take one ounce of fine chopped suet, and put it in a muslin bag; boil it slowly in a quart of new milk; sweeten with white sugar.

The most undoubted predisposing cause of gout is hereditary tendency, and it is one very widely distributed, though not always actively developed; the other causes are, luxurious habits, the habitual consumption of a larger quantity of food—especially of animal food—than is required by the system, and undue consumption of wine and malt liquor, especially the former. These of themselves will develope gout in the predisposed; but if their use is coupled with deficient exercise in the open air, the exciting power becomes much increased. Moreover, the same acting causes give rise to attacks of red or uric acid gravel, that is, to the excretion of this from the blood, by the kidneys in the urine. Hard malt liquor has a peculiar tendency to produce in those consuming it, this uric acid, even in spite of regular exertion in labour; and the author has found brewery labourers, who often consume a considerable amount of hard ale, suffering from alternate attacks of gout and red gravel. In the country, gout is not a common disease, for the population generally, whilst they do not consume excessive quantities of meat and malt liquor, have also the constant counteraction of plenty of fresh air and exercise. When gout is met with in the country, it is generally in those connected with inns and public-houses, who consume malt liquor largely, and take little exercise.

From the above it is evident, how much any one with a liability to gout has it in his own power to prevent its occurrence; malt liquor he should never touch, wine very sparingly, or if he must have some stimulant, though he is much better as a general rule without any, a little gin or brandy and water. Meat should be eaten sparingly and only once a-day; never at night. Bread made with the bran in it, vegetables generally, cooling fruits[*] milk preparations, are the safest articles of diet for those predisposed to gout; but tea, and especially coffee should not be taken strong. Further, early rising, attention to the condition of the skin by frequent washing and regular daily exercise, are the best adjuncts to temperate diet. It is perhaps not saying too much to affirm, that persons predisposed to gout may almost wholly escape its attacks by attention to the above rules of health. In advising exercise, however, the caution must be given, that it is not violent and fitful exertion which is recommended, this being, in fact, more likely to develope the disease than to prevent it. The regularity of a sufficient amount of daily exercise is the essential: indeed, not only does *violent* physical exertion, especially of an unusual kind, tend to excite a fit of gout, but even strong mental emotion or violent passion has been known to do the same.[†]

Regarding the best treatment of gout during the existence of the attack, there is considerable diversity of opinion. Little is to be done to the inflamed part; certainly cold applications, which have been recommended and used, are dangerous, but a piece of flannel, wrung out of warm water, laid *lightly* over the joint, and covered lightly with a piece of oiled silk will give relief, or the lotion of sugar of lead and laudanum may be used warm[‡] perfect rest it is almost superfluous to enjoin, as the pain makes that compulsory. As regards constitutional treatment, where the powers of the constitution are vigorous, a perfectly low diet should be observed; in some cases an active purgative answers well, in others, but chiefly old standing cases, it so certainly aggravates the attack, that patients from their own experience will not resort to the remedy. Ten to fifteen grain doses of carbonate of potash may be given three times a-day, dissolved in half a tumblerful of water, either simply or made effervescing by the addition of lemon juice. *The* remedy, however, for gout, is colchicum. A medical man may, of course, give it more boldly than an unprofessional person; but still, should it so happen that the person suffering from gout is not under medical treatment, ten drops of colchicum wine may be given safely three times in the twenty-four hours. The power of colchicess in subduing both the pain of gout and the disease itself is often most striking. The following instance will exemplify it:—A lady suffered from repeated attacks of severe shooting pain through the region of the heart, and was treated without relief; at length one of the joints of the forefinger became suddenly affected with gouty inflammation; this gave an immediate clue; colchicum wine was prescribed in ten-drop doses twice a-day, and before six doses were taken, both the pain at the heart and the inflamed joint were cured; the same thing has occurred repeatedly since in the same patient.

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[*] Strawberries may be eaten with impunity, if not with advantage, as they contain a certain amount of the Salts of Potash.

[†] In some cases where the inflammation is not excessive, nothing affords such relief as to envelope the painful part in cotton wool, and then cover this over with oiled silk, till profuse perspiration is induced. The saturated cotton wool may then be removed and dry substituted, without any waterproof covering.

[‡] The somewhat too fashionable practice of the cold bath in the morning is of very doubtful benefit to those of gouty habit; warm or tepid evening sponging is very preferable.

It is undoubtedly better, safer, quicker, even in mild attacks of gout, for the case to be treated by a medical man; but patients who know what the disease is will not always have recourse to his aid; in such cases, the perfect rest both of body and mind, the warm moist flannel, low diet, gentle regulation of the bowels, the cooling saline, and the small doses of colchicum will be the safest measures; but safer still will be attention to those preventive measures already pointed out, which any may follow by the aid of their own common sense—a faculty which ought to shew the reasons for, and the reasonableness of, such a course. Many persons who have suffered from repeated attacks of gout become affected with chalk-stones—See *Chalkstones*—which impede greatly the usefulness of the hands; the constitution too gives way. In these cases, medical assistance ought never to be dispensed with, and there are few old sufferers from gout, in whose power it is not to procure it of the best. A much less reduction in diet will be required than in more recent cases and stronger subjects, the medicines must be of a warmer character. Fifteen grains of calcined magnesia, ten of rhubarb, and forty drops of sal volatile, in a wine-glassful of water, will form a draught which may be repeated twice a-day. It may also be given with advantage with double the quantity of sal volatile, and twenty or thirty drops of laudanum in the event of gout receding to the stomach, as evidenced by pain and other signs of disorder of the organ, and by the sympathetic faintness, accompanying the attack. A glass of brandy may be substituted for the above with good effect; these stimulants, however, being given under the caution that no extreme tenderness, indicative of inflammation, exists at the pit of the stomach. In addition, in an attack of "retrocedent" gout, either to the stomach, or elsewhere, the feet should be immersed in hot water, with mustard, or a mustard plaster should be applied to them, with a view of attracting the disease to its more usual site. These attacks of gout shifting to internal organs are often so quick in their seizure, and so rapid in their progress, that it is highly desirable that such measures should not only be understood, but thoroughly carried out. The aged and debilitated sufferer from gout must not at any time reduce much, his usual mode of living. Gout has been, and is, confounded with rheumatism. The general distinctions are, the occurrence of gout most frequently after the thirty-sixth year; most often in males, especially those who live highly, affecting the small joints—generally but one at a time.*

Refer to—*Colchicum*—*Gravel*—*Rheumatism*—*Urine*, *&c.*

GRAINS, or as they are sometimes called the "cereals," are the seeds of plants which belong to the order of the grasses. They constitute a large proportion of the food consumed by the human race, and likewise form no inconsiderable amount of the nutriment of vegetable feeding animals generally. They are, perhaps, in one sense the most direct link between the animal and mineral kingdoms, for in them the nutrient compounds prepared by the vegetable from the mineral elements of the soil, and from the gaseous constituents of the atmosphere, are of such a nature, and are so compacted, that they are presented to the digestive organs and assimilating powers of animals in forms more fitted for affording direct nourishment to their tissues, and more direct support for their bodily functions, than any other kind of vegetable nutriment, with the exception of that yielded by the pulses—beans, peas, &c.—which are not, however, so universally employed as food.

The grains chiefly used by man are wheat, oats, barley, rye, millet, maize, or Indian corn, and rice; the nutritive power of these, however, differs greatly. The nourishment afforded by the grains to animal bodies may be classed under three distinct heads—the azotized nourishment, represented by the gluten, which is adapted to build up and supply the waste of the muscular, or fibrinous and albuminous tissues; the non-azotized nourishment, represented by the starch, which goes to supply respiratory food, forms fat, &c.—and the nourishment, principally phosphates of the alkalis and earths, which supplies the mineral elements to the bones, the nerves, and to the tissues generally. Upon the proportions, therefore, in which these different kinds of nourishment are contained in the grain, depends its nourishing power. Wheat, of all the grains, contains gluten most largely in proportion to its other constituents. Oats are next to wheat in this respect. Barley and rye are inferior to both wheat and oats, and maize and rice are very far below any of the above; the former of the two not containing above 5 per cent. of azotized matter; the latter not above 3 or 4 per cent. *Vice versâ* to the above, the starch constituents are in much larger proportion in rice and maize, than in wheat and oats. The mineral constituents of the grains vary considerably as regards proportional amount, but they consist chiefly of phosphates, with oxide of iron; they are contained most largely in the seeds of the cereals and of the pulses, and appear to be no less necessary to the perfect formation of the seed, than they are to the blood of animals, which cannot be properly nourished, unless the food from which it is formed contains these mineral constituents in certain proportion—a beautiful instance of the harmony and universal adaptation of all things which prevails throughout the works of the Creator.

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* Of late years, Lithia has been much used as a remedy in gout, though, in the experience of some physicians it has proved inferior to Potash. Five grains of the Carbonate of Lithia, dissolved in simple water, may be given three times a day. Aerated Lithia and Potash waters may be given as drinks with advantage.

The grains also contain a certain proportion of fatty or oily matter. Maize does so largely, and oats in very considerable proportion.

The grains, therefore, from their constitution, are capable of supporting, with the addition of water, the animal frame and functions. It is evident, however, from science, and experience confirms the fact, that a larger proportion of barley, and still more so of rice or maize, is required to sustain the muscular development, than of either wheat or oats, which contain a greater amount of the gluten, or nitrogenized, or plastic element of nutrition. For further information on these points refer to *Blood*, *Digestion*, *Farina*, *Fecula*, *Food*, *Gluten*, *&c.*

The flour, or meal, prepared from grain, partakes of course of the characters of that from which it is formed, and is also modified by the mode of preparation, whether ground fine or coarse, whether entirely deprived of bran or not.—See *Bran*, *Bread*, *Farina*, *&c.* Under the microscope, the various kinds of flour, particularly their starch granules, present very different appearances; this agent therefore has become valuable as a means of detecting adulteration, which could not otherwise have been discovered with certainty. At present, owing to the abundance and cheapness of wheat and wheat flour, there is no temptation to its adulteration—See *Bread* —may that temptation never be again in action. Besides being ground into flour, some of the grains are otherwise prepared artificially for food, as in the case of pearl-barley and groats formed from the oat.

See *Barley—Oat, &c.*

GRANULATIONS are the small red rounded points which cover the surface of a healing sore. They are very vascular, and bleed easily. When the granulations are deficient, the sore is depressed, smooth, and glazed-looking, and is not healing well. When the granulations are excessive they constitute what is called "proud flesh." In this state they are paler than they should be, and require depressing or astringing by some caustic or astringent agent, such as lunar caustic, blue vitriol, &c.

See *Caustics*, *Ulcers*, *&c.*

GRAPE.—The fruit of the vine, one of, if not the most wholesome of fruits—when ripe it contains sugar abundantly, vegetable jelly and mucilage, and the characteristic tartaric acid in combination with potassa, also an azotized albuminous constituent, or gluten, on which depends its property of ready fermentation, in which respect the juice of grape excels all other vegetable juices; undergoing spontaneously the necessary change, and becoming converted into true wine by its own inherent power of fermentation. The juice, if kept a few hours, will spontaneously ferment. As a cooling article of diet, ripe grapes are most wholesome, and invaluable in many cases of illness; but must be forbid when their aperient properties may prove injurious. Of late years, what is called the "grape-cure" has been introduced into Germany; the persons undergoing it living chiefly on grapes—of which they have to consume many pounds weight per day—and bread. It is probable that in some states of constitution this cooling system of diet may be useful; it has, however, at least one serious drawback: the continued application of the acid of the fruit to the teeth completely dissolves off the enamel.

Refer to—*Fermentation—Raisins—Wine, &c.*

GRAVEL.—See *Urine.*

GRAVE-YARDS.—Receptacles for the dead, which are often so arranged in this country as to be a disgrace to a civilised community. Like the imperfect drainage, and the other deficient sanitary arrangements, the grave-yards of our large towns in the first half, at least, of the present century, will probably afford material for comment for its historians of a future age. It will be regarded as a curious anomaly, that the people of Britain could, in spite of warnings without number, continue to inter the corrupting remains of mortality in the midst of the abodes of the living; a practice in itself reprehensible, but doubly and trebly so, when the fearfully crowded condition of the grave-yards of large towns is considered. It would be difficult perhaps to estimate the amount of injury to the living which has resulted from the abominable custom of city grave-yards, for which the only excuse, in times gone by, was ignorance. This excuse, however, no longer exists, and the investigations of Mr. Walker and of others have made the injurious and culpable nature of the practice sufficiently apparent. This reason might be enough to prevent interments in situations where they are likely to prove a source of disease and death to others; but there is another reason, in the natural feeling which all must have towards the remains of those who have been near and dear to them, that they should be undisturbed; so long at least as they retain the semblance of the material body; but undisturbed they cannot be in the festering soil of some city burying-places. The words of Mr. Walker, not five years since, respecting one grave-yard in the heart of London, will best place this subject in its proper light. Of it, he says, "indecent, pestiferous in every respect, because when a proportion of 3073 corpses are annually interred in an acre of land, it follows as an inevitable consequence that the bodies of the deceased can remain in the ground only five months, instead of ten years. Hence the stacking of coffins in deep pits, the brutal dismemberment of bodies, the consumption of coffin-wood in many localities, the absolute super-saturation of the soil, which can neither retain nor dissolve the putrescent matters with which it is loaded. Hence the daily scenes which outrage every moral and religious sentiment—*hence the danger to mourners from attending funerals in such places*—hence the insidious infection which poisons the atmosphere; and thus, by undermining health or begetting disease, hurries thousands to an untimely end."

Here, surely, are arguments, both selfish and unselfish, sufficiently cogent to induce all to lay the remains of their friends where they will not be disturbed, and where they cannot prove injurious to the living.

Refer to—*Burial—Death, &c.*

GREEN-SICKNESS.—See *Chlorosis.*

GREGORY'S POWDER, or MIXTURE.—A compound of two parts of rhubarb, four parts of calcined magnesia, and one part of ginger. It is taken either simply, in water, or with water along with some stimulant, such as a tea-spoonful of sal volatile; it is a good stomachic and gentle aperient;* but persons sometimes get too much in the habit of taking it regularly, and injure the tone of the stomach by the undue amount of magnesia.

GRIPING—is pain produced in some portion of the bowels, in consequence of irregular contraction of the muscular coat; it is in fact a minor form of colic, or spasm, and is to be relieved by the management recommended under those heads. Some medicines are more liable to gripe than others, and some individuals are more than others susceptible of these griping properties. The inconvenience is generally and successfully remedied by the addition of some carminative or aromatic, such as one of the essential oils—clove, cinnamon, &c.—or by ginger, &c. Pills which are apt to gripe are more effectually corrected by the addition of one or two grains of extract of henbane, when that medicine is admissible. Some medicines are rendered griping by faulty preparation. This is especially the case with senna.—See *Senna.*

Refer to—*Colic—Spasm, &c.*

GRIPPE.—The French name for the epidemic influenza.

GROATS—are oats when deprived of the husks; "Embden groats" when they are bruised also. They are used and useful for making gruel, &c.

GROWTH—or increase of size of the body, as a whole, or of any part of it, is dependent, as a healthy process, first on a proper amount of nervous excitation, and second on a due supply of healthy blood. When any part, such as the arm of a workman, is regularly and vigorously exercised, the nervous power, and the flow of blood, are directed to it in increased proportion, it acquires additional substance, or grows; but should the same arm become paralysed, how quickly will it diminish in bulk. Up to a certain period of life the body grows: in animals this varies with the species; in man, the process continues, generally, up to the twentieth year, or even beyond. When growth ceases, it is not that new material ceases to be added to the body, for this is unceasingly being effected to supply the place of those constituents of the frame which are continually being used up; but the balance between the food taken and assimilated, and the waste of the body, is equalized, and after growth has ceased, this balance—with the exception of fatty deposits—is, *during health*, maintained with but little variation during the years of life's prime. When old age comes on, that is after the sixtieth year, the balance inclines the other way; the waste now exceeds the reparative nutriment which it is in the power of the system to receive and elaborate, and the tissues all diminish in bulk, the stature, even, becoming less.

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* In severe cases of colic, attended with constipation and griping pain in the bowels, a tea-spoonful of Gregory's powder with 30 drops of sal volatile, may be taken in a wine-glassful of peppermint water every three hours till the bowels are moved. It seldom fails to give relief.

Young persons require nutriment, not only to sustain the wasting processes of respiration, and of motor change or movement, but they require, also, sufficient to supply the growing tissues of their entire body with the various elements which go to perfect their composition; if these elements are not supplied, development is either arrested, or, the tendency to growth continuing, the bones and tissues generally, lengthen, without acquiring their healthy substance. As a rule, the appetite of a healthy growing child for *plain and wholesome* food, ought never to be stinted.—See *Children*, *Digestion*, *Food*, *&c.*

GRUEL.—See *Cookery*.

GUAIAC.—The wood and gum resin of a tree, which is a native of the West Indies. They are both used in medicine. The wood is extremely hard and tough, of a striped yellowish green colour; the resin is a greenish brown. Guaiac, as a medicine, acts upon the skin, and is often extremely useful in chronic rheumatism. The most convenient form of administration is the tincture, which may be given in one or two tea-spoonful doses at bed-time; milk is the best vehicle for its administration; when taken in water it must be drank as soon as mixed, otherwise the resin separates and floats on the top.*

Guaiac sometimes occasions sickness, in which case it is better abandoned.

GUINEA WORM—is a parasitic, long, round worm, about the thickness of a violin string, which burrows beneath the skin, chiefly of the feet and calves of the legs. It is met with principally in tropical climates, particularly on the African west coast, but is sometimes brought to this country by individuals who have resided in the tropics. The length of the animal varies from a few inches to five or six feet. After remaining under the skin for a longer or shorter time, the head protrudes through a small boil which forms on the skin. The only treatment, is seizing the head when this occurs, and gradually, from day to day, winding out the worm, care being taken that it is not broken, for should this happen, the portion which remains is apt to occasion severe irritation. Persons native to the situations where these parasites prevail, will always be found skilled in the mode of extracting.

GULLET—The Gullet, or "Œsophagus,"—is a tube which extends from the throat or fauces to the stomach. Down, or through it, the food is propelled by the action of the muscular fibres, which form one of its coats. It is narrowest at its upper end, and it is here that choking from food most generally occurs.

Choking may occur from various causes; either the gullet may be contracted from some cause or other at a particular point, or the morsel of food may be too large, or of such a hard irregular character that it cannot pass down easily, or the cause of the impediment may be spasm, more especially of a hysterical character. Impediment to swallowing from contraction of the gullet-tube is generally a serious matter; the cause should, as soon as possible, be examined by a medical man; sometimes it follows recent injury to the lining membrane, such as scratching by a sharp-pointed bone, or after poisoning by irritant agents. In a case under the author's care, it followed upon a damson-stone having been swallowed some months previously, scratching the throat in its descent; the power of swallowing, which was nearly lost, in consequence, probably, of thickening of the tissues immediately beneath the lining membrane, was restored by the administration of cod-liver oil for a few weeks. When a large morsel of food gets fast in the gullet, it may occasion death by pressure upon the windpipe; at all events, it causes much distress for the time. If at all within reach of the fingers, of course they may be used for its extraction at once; if too far for this, a surgeon's assistance will be required to push the morsel beyond the upper narrow portion of the gullet into the wider; this he will effect by means of the probang—fig. A—an instrument consisting of a piece of round whalebone about two feet long, to one end of which a portion of sponge about the size of a large marble is firmly attached, and which requires oiling or greasing before use. In passing the probang, care has to be observed that it is kept well to the back of the throat, and the patient's head well thrown back at the same time; it is then to be pushed steadily but quickly down till the obstruction is felt to pass readily before it, and away from it.

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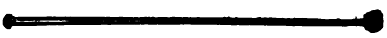

These particulars are mentioned, not to induce unprofessional persons to attempt the operation when a medical man is procurable; but if he is not, an unprofessional operator and an extempore probang, made from an umbrella whalebone, a cane, or even a curved stick, with a small bunch of some soft material *securely* fastened to one end, would be preferable to choking entirely, or partially even, for any length of time. A few smart blows on the back will, in the case of children especially, often dislodge a morsel sticking in the upper part of the gullet. Sharp-pointed or irregular bodies, such as pins, fish-bones or other bones, may get fixed in the throat, and it is generally in the upper part of it; the fingers may be able to remove them, if not, a piece of bread, coarsely masticated and swallowed, will often, especially if followed by a draught of water, carry down the impediment. In some cases, an emetic may be useful. Frequently, after a sharp-pointed body has stuck in the gullet, and has scratched its lining membrane, the sensation of its still remaining may be felt for some time after it has passed away. It is well to keep this in mind, that continued, unnecessary efforts to relieve may not be persevered in.* If a sharp body remains fixed in the upper part of the gullet, pressure at some point or other will almost certainly cause a pricking sensation. The gullet is sometimes spasmodically affected, the food being either stopped in the passage downward, or passed with pain and difficulty; this affection falls partly under the head of *Spasm* and *Hysteria*, but it is sometimes the result of too great haste in eating and swallowing. As explained under article *Digestion*, the food does not simply fall into the stomach down the gullet-tube, but it is conveyed into the digestive organ by the regular action of the muscular fibres of the tube, which, whilst they propel forward, also close behind the morsel being swallowed. It must be evident, therefore, that if morsels follow one another in too quick succession, this action must be interfered with, and if it is, spasmodic pain at least, is produced, and not improbably choking.

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* The British Pharmacopœia contains a mixture of Guaiac which is a good form, and may be given in the dose of an ounce to an ounce and a half. In chronic rheumatism this mixture has been found very efficacious by the author.

Choking from things getting fixed in the gullet, must not be confounded with the sensation of suffocation produced by foreign bodies getting into and irritating the upper portions of the windpipe which lies in front of the gullet.—See *Lungs*. In the latter cases, sudden, violent, spasmodic cough ensues, and the appearance and dread of suffocation is generally much more quickly and strongly marked.

Refer to—*Alimentary Canal, and more especially to Digestion—Lungs, &c.*

GUM ARABIC, or GUM ACACIA,—is the produce of certain species of acacia, and is brought chiefly from Northern Africa, Egypt, Nubia, Barbary, &c. Gum is contained in greater or less proportion in the juice of most plants, and by many it is exuded in the form of round concrete drops or "tears" as they are called, such as the gums of cherry and plum-trees, which are familiar to all. The gum of the acacia is, however, most generally used and esteemed as a demulcent, in affections of the throat or air-passages, in irritations of the urinary organs, &c. When gum is dissolved in water the solution is named mucilage, and in this form it is one of the most convenient vehicles for other medicines, particularly those which require some degree of suspension in liquid, as, for instance, in the common chalk mixture; it is also useful for facilitating the mixture of oils, camphor, &c., in watery mixtures; but for this purpose milk is preferable. The powder of gum acacia, *when genuine*, is probably the best form for keeping, as it is dissolved in a few minutes, whereas gum in its ordinary form takes a considerable time, and when made into mucilage, on the other hand, is very apt to spoil. Gum is nutritive in some degree, probably in the same degree, as starch or sugar, and is used as an article of diet in the countries whence it is procured. It is much more used in medical practice in France, than in this country, both for its nutritive and its demulcent properties.

Gum tragacanth another species of gum, brought chiefly from Asia Minor, Persia, &c., is procured from a tribe of plants belonging, like the acacia, to the leguminous or pod-bearing family. It possesses many of the properties of acacia gum, but not being so soluble, is not nearly so convenient for use.

Mucilage of gum acacia may be conveniently made, by dissolving ten ounces of the gum in twenty fluid ounces of water, either by gentle heat, or by suspending the gum—tied in a muslin bag—in the water.

GUMS.—The gums which closely invest, but do not adhere to the teeth, are composed of mucous membrane of a dense insensible character. In the investigation of disease, the gums frequently afford valuable information respecting general constitutional disorder. In sea-scurvy, the gums become spongy and swollen, extend over the teeth, and bleed easily; the symptom is always strongly corroborative of the bodily disorder. In persons who have been long subjected to the action of lead, slowly introduced into the system, either in the course of their occupation, or, as sometimes occurs, from the ordinary drinking water having become impregnated with the metal from lead pipes, a blue line is often observable along the edge of the gum. A pink line in the same situation has also been pointed out as shewing itself in persons affected with pulmonary consumption. In constitutional affection by mercury, it is well known that the gums become inflamed, sore and spongy, in some cases of disease affecting the mouth, the gums become dark or black in colour, and the breath is extremely fœtid.

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* An ingenious instrument is now much used by medical men to remove small substances, such as fishbones, pins, &c. It is a flexible probang, which is passed down the gullet closed, and in being withdrawn expands an umbrella shaped net-work of cat gut, in which the foreign body may often be successfully entangled.

Of course, in cases where the state of the gum is indicative of constitutional affection that must be attended to—see *Scurvy, &c.*—but the condition of the gums in any case, may generally be much relieved by the use of astringent substances in the form of washes; none, perhaps, is better than the tincture of myrrh, but camphor dissolved in alcohol may also be used, or, indeed, almost any one of the astringents. A drachm of alum dissolved in a pint of water makes a very good and cheap wash.

In the case of black-looking gums, with fœtid exhalation, a wash made of two drachms of muriatic acid to the pint of water will be found most especially useful, or two drachms of the solution of chloride of soda may be used with equally good effect. Such a case, however, must require medical attendance. The gums in the teething of children require much attention.—See *Children.*

GUM-BOILS — are small abscesses formed in consequence of inflammation of the gum, generally the result of decayed teeth or their stumps. The abscess generally discharges between the gum and the lip.

GUN-SHOT WOUNDS.—See *Wounds.*

GUTTA PERCHA. — This substance now familiar to all, and so extensively used in so many different ways, is obtained from a tree native to the Malay peninsula. In medical and surgical practice it has been adopted for many purposes, such as splints for fractures. Probably, its most valuable property in a domestic point of view, is its being waterproof, and forming a cheap and efficacious protection to bedding, in many cases in which this is apt to be spoiled by the discharges, natural or otherwise, from the sick.[*]

Refer to—*Bed, &c.*

GYMNASTICS—are exercises for the body which are too often practised in an injurious manner, causing violent straining of the limbs and joints for which there is no necessity, as a perfectly adequate amount of muscular exercise of all the limbs may be obtained without it. These observations apply, of course, to gymnastics as an exercise simply; when their object is to give strength, agility and fearlessness to those whose future occupations may, probably, call especially for such qualities; gymnastic exercises are of course highly desirable.

HABIT.—The connexion existing between the influence of the will and certain sensations and motions in the living body, is a fact of which every one must be conscious from personal experience; when, however, the actions resulting from these sensations and motions are, after frequent repetition, performed without a distinct and conscious exercise of the will, they are said to be the result of habit. These habits, however, are of the body, and are distinct from habits of the mind, influences which act upon the will itself, with lesser or greater power, and impel the individual to certain acts.

It is, perhaps, needless to advert to the proverbial power which habit exercises, not only over man but animals, becoming to them a "second nature," and to their offspring a natural tendency. So powerful an agent, both mental and physical, as habit, cannot fail to be largely implicated in the consideration of the nature and treatment of disease. It is sometimes of the greatest consequence, not only to break the influence of habits of which the mind is conscious, but even of habits of disease over which the mind has generally no control. This is particularly the case with respect to periodic diseases of the nervous system, such as ague, &c., which, after a time, appear to be continued rather from the habit of the constitution than from any other cause.

Still more widely connected with the treatment of disease, is the acquisition of good habits, in the room of bad ones, which are often the causes of impaired health. Some individuals constantly eat and drink too much, from mere habit, others take little or no exercise "from habit," and although conscious of these and other negligences often require considerable exertion of the will, aided by the almost despotic commands of a medical attendant, before they can break through them. The good effects of habit in persons liable to constipation have already been pointed out in the article on that subject; in this case the habit originating in the will, becomes, after a time, partly or wholly involuntary.

There is, however, another state of disorder, and a more intractable one, in which the influence of habit may be most beneficially exercised. It is that state of hypochondriac unrest called the "troubled mind." In such a condition, nothing is more valuable, than the habit of daily, at certain fixed times, forcing the mind to bend itself to some definite *continuous* employment, one which it will require some degree of mental exertion to carry on, and which will maintain its interest, perhaps an increasing one, from day to day.

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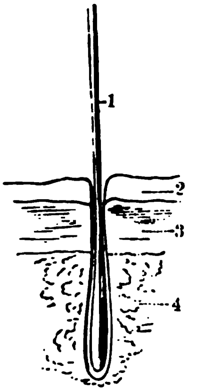
[*] Sheet Gutta Percha is now universally employed as a cheap and efficient substitute for oiled silk to cover and retain moisture in the different varieties of dressing. In some cases it is apt to irritate the sound skin which it overlaps, and it may be advisable to protect the irritable surface by some fine linen, lint, or a very thin layer of cotton wool. Many instruments, instrumental supports and appliances, are now made of Gutta Percha and its introduction has been a great boon to suffering humanity.

HÆMORRHAGE.—See *Hemorrhage.*

HAIR—is a development from, it might be called a prolongation from, the outer or scarf skin. Each separate hair—fig. A, 1—is contained in a pit which passes into the true skin—fig. A, 3—or through it, into the tissues beneath—fig. A, 4. Into this pit the outer or scarf skin—2—is folded, and from this folding the hair is developed, consisting of an external or denser portion composed of flat over-lapping scales, and an internal porous "pith," which contains the colouring matter.

A



The condition of the hair is often highly symptomatic of the bodily condition, at the same time it is, of course, liable to alteration from local influences.

The hair is apt to become split, or forked, in consequence of weak growth; this generally occurs in persons in a debilitated condition. Keeping it cut tolerably short is a good preventive, but of course removal of the bodily weakness of which the state of the hair is symptomatic, is essential. The colour of the hair is indicative of constitution and temperament.—See *Temperament.* Its changes in colour indicate generally the advance of years, but sometimes the premature grey speaks of continued mental toil and trouble, and it has followed at once upon violent mental emotion, a few hours sufficing for the change.

The unfortunate queens, Mary of Scotland and Marie Antoinette, are both said, amid many others, to have been instances of this effect of mental emotion upon the hair; and the fact of this direct connection between the condition of the body and the colouring matter of the hair, renders it probable, that permitting the hair of children to be kept long, is really subjecting them to a source of constitutional weakness.

Falling out of the hair occurs from weakness, either of the body generally or of the hair bulbs or "follicles" themselves. Various stimulant local applications are used in such cases.—See *Baldness.* Balsam of Peru,—a drachm stirred well into an ounce of simple cerate when melted, is said to be a good application.[*]

Removal of the hair is a proceeding frequently called for in the treatment of disease, especially of febrile and inflammatory affections affecting the head. In these cases, it may be entirely removed, at once, without risk, and should be *shaved* off when the full effect of the procedure is required. Some persons, especially females, are often much vexed at the shaving of the head in fever, &c. Its necessity is, of course, or ought to be, answer sufficient; but it often happens, that if the hair has not been taken off during the course of disorder, it must, from tendency to shed afterwards, be shaved off during convalescence.

When the hair is removed in persons not suffering from acute disease, it must be done cautiously, especially if this natural clothing has been somewhat long and thick. Where it must be taken off, entirely, and at once, the head should be protected by a cap of flannel, otherwise neuralgic or rheumatic attacks may be the consequence.

Frequent cutting undoubtedly strengthens the growth of the hair, and frequent brushing and washing are quite the best methods for preserving its health and cleanliness, and ought, along with the assistance of the one-sided comb, to be solely trusted to—the irritating "small tooth comb" ought to be banished from use entirely.

In Poland, a peculiar disease is met with, in which the hair becomes thickened, succulent as it were, and matted together by a peculiar glutinous sweat. It has been erroneously reported that the hair in this condition not only bleeds but possesses feeling; the latter idea having, doubtless, arisen from the irritability of the skin at its roots.

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[*] Of late years, several very interesting diseases of the hair have been discovered by the aid of the microscope. They are dependent upon the presence of vegetable parasitic fungi, and can only be properly recognised and treated by a skilful medical man.

Refer to—*Baldness—Skin.*

HAND.—This wonderful agent of the human mind is much exposed to injury. When this occurs, as it often does, at a distance from medical aid, one principle must ever be remembered, that the preservation of as much of the member as possible, even of a single finger, or of part of one, is of the highest moment with reference to future usefulness. In a crush of the hand, when bleeding is not great, the best treatment will be to place it in a large warm poultice, and keep at rest until medical aid is procured. The management of various accidents, &c. will be found under such heads as *Artery, Dislocations, Wounds, &c.*

HANGING—suspension of the body by the neck—may cause death, in three distinct modes; by compressing the windpipe, and producing suffocation; by compressing the veins of the neck, and causing apoplexy; or more rarely by dislocating the neck. The two former modes may be mixed up together; the latter, when it does occur, is in consequence of a "fall," such as is given at a public execution; it of course causes instantaneous death. Recovery from hanging must in some degree depend upon the completeness or not of the interruption to the passage of air through the windpipe for any time; it is not likely that resuscitation will be effected if this has continued four minutes. The first thing to be done when a person is found hanging is, of course, to cut them down at once, to loosen the material around the neck, to dash cold water over them, and to bleed.* In such an emergency, a person would be quite justified in cutting across the temple, where the artery beats—See *Artery*—with a penknife, and allowing blood to flow to the extent of ten or twelve ounces. The bleeding could be controlled until the arrival of a surgeon, by means of pressure against the bone. In most respects, the treatment of a person hanged must be similar to that of one drowned, except that the application of heat would scarcely be requisite in the same degree.

HARE, like other game, is extremely easy of digestion, apart from the various dressings and stuffings.

HARE-LIP, or CLEFT-LIP, is a deformity with which infants are occasionally born; the lip being cleft at the furrow, to a greater or less extent. Sometimes the fissure extends through the roof of the mouth. The case ought to be very soon submitted to the surgeon for remedy by operation.

HARROWGATE.—"Dr. Hunter divides the Harrowgate springs into four classes. 1. Springs impregnated with sulphuretted hydrogen gas, and saline matter. 2. Saline chalybeate springs. 3. Pure chalybeate; and 4. Springs containing earthy salts, with little iron and no sulphuretted hydrogen.

"Of the skin-diseases in which Harrowgate-water is likely to be beneficial, Dr. Hunter mentions *lepra, psoriasis, porrigo, herpes, and impetigo.* He says, 'it speedily and safely carries off the effects of intemperance in those who having spent the winter and spring in festivity, resort to Harrowgate with their system loaded with impurities from the excesses of the table, and whose stomachs are debilitated by these and similar causes. Its use is acknowledged in those predisposed to apoplexy. In chlorosis it has been usual to drink the sulphur-water for some time, and then to take the chalybeate.' Scrofula, scurvy, secondary syphilis, gout, regular, irregular, and atonic; hypochondriasis, jaundice, chronic rheumatism, stone, and gravel, are also among the diseases enumerated; and, inasmuch as they arise for the most part from the same disordered condition of the system, they are most likely to be alleviated by the use of these waters. Used in the form of bath, the water must be heated to the required temperature; and would, if employed alone, be productive of but slight medicinal effects beyond stimulation of the surface, from the sulphurous impregnation, and the salts contained in the water."

HARTSHORN—See *Ammonia*

HASTINGS.—This much-frequented watering-place lies in a valley, enclosed towards the north, north-east, and west by hills, which shelter it from high and cold winds, and conduce to its being, perhaps more than any other place, resorted to in winter by invalids to whom a mild climate is applicable.

The soil, as in most parts of Sussex, is clay, with a substratum of sand, and the ground in Hastings and its neighbourhood dries soon after rain. "Those," says Dr. Mackness, "who have resided where the character of the soil keeps the surface continually moist, and who have at the same time suffered from some of those maladies which have their origin in, or are aggravated by a cold and humid atmosphere, can fully appreciate the advantage which Hastings owes to its geological formation alone. Rarely is it necessary for the invalid, however delicate, to be confined to the house for any length of time, even in the most stormy weather."

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* In a medicolegal point of view, it is important that the bystanders should observe carefully the surroundings of a body found hanging, in order to determine whether the case is one of suicide or murder by hanging, or, lastly, whether the person has first been murdered, and then suspended in order that he might appear to have committed suicide.

The south and south-westerly winds are most prevalent; the latter are at times, especially in spring, severely felt. These winds, however, when not high, agree well with the majority of visitors who are not in a weak state of health. The south wind being to a certain extent impregnated from the sea, is beneficial to most of those labouring under disease of the respiratory organs; and these constitute the chief proportion of winter visitors, who are induced to seek advantage from the climate of Hastings.

The sea-bathing is good; a fine sandy beach extending for a considerable distance at low water.

HAY-ASTHMA.—See *Asthma.*—Also called "Hay-Fever, or Summer Bronchitis." It may be caused by other powerful odours, as well as by that of hay. Quiet, tolerably good diet, quinine, or bark, and paregoric, will probably relieve. A cup of strong coffee, without milk, or sugar, frequently repeated, is said to be an excellent remedy.*

HEAD.—See *Brain, Giddiness, Skull, Wounds, &c.*

HEADACHE, "CEPHALALGIA," is one of the most frequent ailments, the result of a great variety of causes; consequently many varieties of headache are enumerated by medical writers; the consideration of all these in a work like the present would tend rather to confuse than to enlighten. The subject will probably be rendered most clear and useful to the unprofessional reader by considering it generally under the divisions of—

Headache from overfulness of blood.

Headache from deficiency of blood, or debility.

Headache from excited or inflammatory action.

Headache from sympathy, and

Headache from anomalous causes.

Headache is so frequent an ailment that people generally seem almost to forget its connection with so important an organ as the brain. There are, it is true, many transient slight headaches, and even severe ones in the predisposed, which do not call for much attention; but it must be remembered, that there are others which it is dangerous to neglect; and an individual who becomes subject to headache, frequently recurring, should consult a medical man on the subject. This is more imperative from the fact, that there is often considerable difficulty in determining the real nature and cause of some headaches, and that an error in this respect—in diagnosis—may, by leading to erroneous treatment, cause the most serious consequences. The most diverse line of treatment may be requisite, in two different individuals; in one, abstraction of blood may, if had recourse to, save from a fit of apoplexy; in the other, the same treatment might induce paralysis, or epileptic convulsion. The lowering measures, in fact, which cure the one, may kill the other. From these considerations, a few general remarks on the subject of headaches will probably be more safe and useful than an elaborate and detailed account.

If a person who suffers from headache is of full habit generally, if he is sleepy, dull, the vessels of the face full; if the uncomfortable sensation in the head is aggravated by stooping, by an abundant meal, by stimulants, or by sleep, overfulness is the probable cause, and reduction of the diet, purging the bowels with calomel and colocynth, and with occasional doses of saline medicine, exercise, bathing the head with cold water, and, if the symptom is very severe, the application of a few leeches to the temples will be beneficial. If the urine is deficient, cream of tartar in some form, may be taken with advantage. The above species of headache, the result of general overfulness of blood, may also be occasioned by whatever impedes the circulation, such as affection of the heart or liver; when the latter is the cause, the pain is frequently most severe at the back of the head. When, on the other hand, headache occurs in a person of weak constitution, when it is produced by or aggravated by exertion of mind, much talking, &c., when there is listlessness, both of mind and body, rather than oppression—the face pale, the pulse weak—debility is the probable cause, although at the same time there may be overfulness of blood in the interior of the head itself; very frequently, however, in this kind of headache, the head is hot, without there being any particular flushing of the countenance. This form of headache also is frequently accompanied with indigestion, and is very common in students and anxious men of business. Anything like abstraction of blood will certainly prove injurious; but cold to the head may be of service, not only as a temporary remedy, but habitually used by means of washing with cold water. Exercise, attention to the state of the bowels, without purging, some care in diet, and relaxation of mind, particularly by means of change of scene and air, will be most useful. In such cases, the whole system is weakened—the brain and nervous system, the circulating system, the digestive organs—and they act and react on one another.

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* For farther information as to this oftentimes almost intractable disease, see Appendix.

Headache from excitement or inflammatory causes, is such as occurs in the first stages of inflammation of the brain, and in some forms of fever, or it follows violence to the head. It of course falls to be treated under the articles on these contingencies generally.

Sympathetic headache is very common, and is evidently connected with disorder in some organ of the body, such as the kidneys, womb, &c. Headache, sympathetic with disorder in the stomach, or some part of the alimentary canal is, however, the most frequent form. The presence of bile, or of indigestible food in the stomach, almost certainly occasions dull pain in the forehead; an alkaline, or too acid condition of the contents of the organ exerts the same effect. The various symptoms of indigestion will generally point to the cause. In the first two, an emetic, or some aperient, such as the compound rhubarb pill, or a stimulant, will probably remove the disorder. A vegetable acid, such as vinegar, many persons know from experience, will at once cure headache, especially if it occurs from the use of oily or greasy food; and again when acid eructations, heart-burn, &c., indicate the presence of superabundant acid, a dose of soda, potash, or magnesia will correct the cause, and remove the effect.

Under the head of anomalous headaches, may here be classed all such as are not referable to any distinct cause. They constitute a considerable proportion of the cases of headache generally, and frequently baffle both the investigation and treatment of the medical adviser.

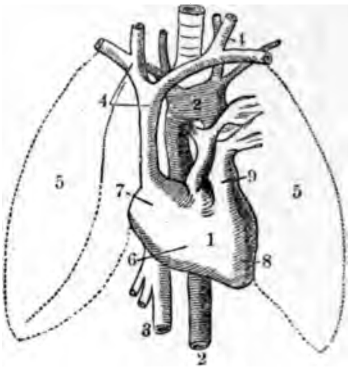
It would be possible, did space permit, to extend this article to much greater length, but its intention is rather to convey some idea of the general causes of this common ailment, than to enter into the minutiæ of its symptoms, relations, or treatment. Most are aware of the cause, and consequently of the best mode of managing their occasional headaches, and when the affection assumes a severe character, the medical man should invariably be consulted. Bleeding, blisters, setons, and issues, cutting the hair, or shaving it off, cold to the head, shower-baths, snuff, purging, acids, and alkalies, stimulants, brandy, sal volatile, emetics, and many other remedies are used and may be used in the treatment of headache; but it would be quite impossible here to undertake their consideration.*

Refer to—*Brain—Fever—Indigestion, &c.*

†HEALTH.—See *General Health.*

HEART.—In connection with this article the reader is referred to *Artery*, *Aorta*, *Chest*, *Circulation*. The heart—fig. A, 1—the central organ of the circulation, is placed obliquely in the chest, the base upwards, the point, or apex, being so situated as, in the living body, to strike the side of the chest, or "beat," between the fifth and sixth ribs, about two inches below the left nipple; this point, however, and indeed the position of the heart generally, is liable to *alteration according to the position of the body.* The size of the heart is generally computed to be a little more than that of the closed fist of the individual; the organ is contained in its own proper bag, or "pericardium," which in the healthy state is lined by an extremely smooth moistened membrane; this membrane is also "reflected," or carried over the surface of the heart itself; and thus during the constant motion, the two surfaces glide easily, and without friction, over each other; the heart lying sufficiently loose in its bag to permit of free movement. The heart is often described as a hollow muscle; it consists of four cavities, surrounded by muscular walls, and is in fact a double heart; this being requisite for the performance of the double circulation—through the body and through the lungs.—See *Circulation.* Of these four cavities, the left auricle—9—and ventricle—8—are devoted to the circulation of the blood through the body, after its return in a purified state from the lungs; the right ventricle—6—and auricle—7—being devoted to the lung circulation. In fig. A, 3, 4, 4—represent the great veins by which the blood returns to the heart from the body generally—2, 2—the great blood-vessel, or

A



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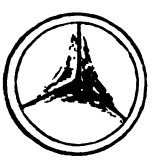
* Headache affecting one side only of the head so exactly that the patient feels as if a line were drawn between the two halves, is called Hemicrania, or "Megrim," which is a corruption of the Latin word, and is generally a neuralgic form of headache, best treated by Quinine and tonics.

† Health Resorts.—The reader is referred to the Author's work on the Health Resorts of Great Britain. The term, "Health Resorts," has, since the publication of the above work, been generally accepted and used.

aorta, by which it leaves the heart to be passed through the body, having, between entering the right auricle—7—and leaving the left ventricle—8—been passed through and purified in the lungs. The auricle and ventricle on the right side of the heart have not, when properly formed, any communication with the corresponding cavities on the left side; but the auricle and ventricle on each side are separated from each other, and from the blood-vessels with which they are connected, by means of valves—so arranged and governed in the motions of the heart, that the blood can only pass in the right direction when the valves are in a healthy state; but should these valves become diseased in any way, the proper currents of the blood are interfered with, and disease is the result. Thus, the passage from the great blood-vessel, the aorta—fig. A, 2—to the heart, is closed by three "semilunar" valves—fig. B—which allow the blood to pass freely into the vessel, but should it attempt to return, these bag-like valves instantly close the passage—the blood itself acting as the closing agent—and this action takes place once for every beat of the heart. If, however, from any cause, one or more of these valves should become deficient, it is evident, that each time they close, a small portion of blood will pass back, or "regurgitate," into the heart, and this actually occurs in cases of disease; and the consequence of the long-continued and constantly-repeated disordered action, is to cause stretching, or "dilatation," of the cavity which receives the re-gurgitated blood. This one instance will explain, how one slight derangement in the nicely-balanced machinery of this important organ gives rise to another. From somewhat analogous causes, the blood may re-gurgitate into, or be dammed up in the lungs or in other parts of the body, causing hemorrhage, dropsy, &c.

B



Again, there may be impediments to the circulation; the valves above alluded to, or others, may not yield as they should do, or there may be other causes which render it difficult for the heart to propel the blood through the body; in such a case, the heart, like any other muscle under similar circumstances, acquires increase of substance, in consequence of the continued increased exertion demanded of it, to maintain the proper circulation; and thus we have a cause and effect, producing enlargement of the heart, an evil certainly, but a lesser evil to prevent a greater, for in this very enlargement—this strengthening, as it were, of the heart to do its extra work—the patient's safety lies.

There are, of course, many other forms of heart disease, but the above instances will convey some rational idea of the nature and peculiarities of the disorders of the organ in general. It would be quite profitless in this work to enter into anything like detail respecting diseases of the heart or their treatment; disorders so varied in their nature and symptoms can only be properly investigated and managed by a medical man, conversant with the mechanism and the functions of the human frame at large, and *in their relations of mutual dependence*.

As might be expected, affections of the heart generally, are evidenced by pain in the chest, difficult breathing, cough, palpitation, &c.; and at other times by faintings, giddiness, irregular pulse, &c.; but there is not one of these symptoms, or any combination of them, which may not be developed under certain bodily conditions, although the heart is perfectly sound; none, therefore, need alarm themselves merely because such symptoms occur; they happen at times more or less to all, still they ought not to be neglected; if they continue to recur, a medical man should be consulted. If there is no disease the mind is set at rest, and any general disorder which may have caused the symptoms will probably be rectified. The above cautions are given, because there is no class of diseases of which people are so apt to fancy themselves the subjects as those of the heart; and the more they think of the symptoms, the more likely are they to continue or increase, from an organ so intimately connected with the emotions of the mind as the heart. Again, even if the heart be unaffected, it is by no means advisable to permit it to continue to be functionally disordered, either by mental emotion or by sympathy with other organs, for the functional disorder may end in organic disease; that it does so sometimes is evident from the fact, that there is no more fertile source of heart disease, than those convulsions, either commercial or political, which occasionally agitate society.

If disease of the heart, either incipient or confirmed, does exist, it cannot too soon be discovered by examination, nor the necessary precautions and regulated mode of life too soon adopted: for with these precautions, a large majority of persons who are the subjects of heart affection, may not only continue to live for years, sometimes many years, but to enjoy life. True, the knowledge to any one that he is himself the subject of heart disease may be uncomfortable, but it cannot be unprofitable; he may be aware that heart diseases are sometimes apt to have a sudden termination, and that *his* life *may* be somewhat more in jeopardy than that of an unaffected person; but surely to every right-thinking man, this fact would rather be an argument why he should know his real condition; the possibility of his being called away from the affairs of this life without warning, should be a reason for his keeping them well arranged; and still more important, should it be a reason that in conducting his earthly stewardship, he should do it, not only with reference to this world, but to give account of it in another; and when the many chances and contingencies of life are considered, the consciousness of being the subject of heart disease amounts to little more than such contingencies assuming a more prominent position in the mind, and to the individual it may be a merciful dispensation. It may seem to some that in writing thus the author is assuming the character of the clerical rather than of the medical adviser; it is not so, it is but taking advantage of the privilege which falls to the lot of the physician, when he has in his power times and opportunities in his relations with society, when the word in season cannot be out of place, as far as the welfare of those entrusted to his care is concerned.

The causes of affections of the heart are very numerous; as already noticed, mental disturbance and agitation is a most frequent one, also mental depression and grief, which if long continued, appear to exert much influence over the organ, and to make the phrase "a broken heart," not altogether a poetical fiction. Violent passion strongly affects the heart—its indulgence may lay the foundation of disease, which its repetition strengthens, and may bring to a fatal termination. Rheumatism, or rather rheumatic fever, is probably another of the most fertile sources of heart affection. In this disease, inflammation of some portion of the membranes covering or lining the heart—See *Carditis*—is apt to occur, and to b followed by such effects as induce permanent change. Violent physical exertions dissipation of all kinds, particularly th abuse of spirituous liquors, are all originators of the above affections. It has been said that persons with heart affections, may continue to live and enjoy life, but it mus be under a more regulated and restricted system of living than is imperative on persons in health. Everything which may be a cause of heart affection, must also be a source of aggravation; all mental or physical excitement especially so. When these are guarded against, the rest may be summed up in—strict attention to the general health. Whenever an old symptom becomes aggravated, or a new one, such a swelling of the legs, &c., appears, medical advice should always be taken. The great secret in these affections consists in maintaining the balance of the various functions, and this can only be done by the judicious management of a medical attendant.

Refer to—*Angina Pectoris*—*Carditis*—*Circulation*—*Hysteria*—*Palpitation, &c.*

HEART-BURN.—A burning or irritating sensation, felt either at the pit o the stomach or top of the throat, and occasioned by undue acidity, or by acrid matters in the stomach. It is generally relieved by an alkali—potassa, soda, magnesia, or chalk—which neutralizes the acid. It is not, however, advisable to have too frequent recurrence to these palliative remedies, for they are only palliatives, they cannot be taken habitually without weakening, not only the stomach, but the system generally. Heart-burn cannot continue to recur without there being an error somewhere; either the diet is badly regulated or the digestive organs require something more than simple neutralization of the superabundant acid. This acid is a badly formed gastric juice, and if it is neutralized whatever digestive power it might possess is destroyed, consequently the stomach is called upon to secrete another supply before the food can be digested—a call upon its powers which cannot fail to be injurious Moreover, persons finding how quickly a dose of alkaline medicine removes the uncomfortable sensation of heart-burn, are very apt to trust to the palliative, and continue their indulgences, rather than to practice the self-denial requisite to effect a cure of the cause.

Some persons find Spanish liquorice a good palliative in heart-burn.[*]

Refer to—*Indigestion, &c.*

HEAT.—The imponderable agent which

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[*] Twelve grains of Bismuth, with five grains of Aromatic Powder, taken three times a day, in a little milk, will seldom fail to relieve.

gives to our senses the feeling of heat, is in scientific language called caloric, to distinguish it from the term heat, used to designate the sensation. In this article, however, the one term heat is employed. It is not requisite here to enter into a consideration of the nature of heat; its sources, as best known, are the great fountain of it, the sun; there is also the heat developed in the interior of the earth; that produced, or at least manifested, by friction, and also by combustion, chemical change, and in the bodies of animals.—See *Animal Heat*—and in some plants.

Heat is interesting in a medical point of view; first, from its effect upon the healthy body—its physiological effect; and second, from its effects as a remedy in disease—its therapeutical effect.

Of the first, the physiological effects of heat, much has been said under *Acclimation*, *Animal Heat*, *Bile*, &c., which it is unnecessary to repeat here, these articles sufficiently point out the effect of continued high temperature—from 80° to 110°—such as occurs in tropical climates, upon the human body.

When the heat becomes very intense, particularly if there is direct exposure to the rays of the sun, more immediate and marked effects result; the brain may be affected, and sun-stroke, or "coup de soleil," as it is called, be the consequence. This affection, which is not uncommon among the European residents in India, and especially amid troops on march, is sometimes also witnessed in the case of harvest-labourers in this country, in very hot summer weather. The affected person falls insensible, the face flushed and swollen, and the vessels beating violently. The most efficient remedies are said to be pouring cold water on the head, and the administration of a small quantity of stimulant, ammonia or brandy.

The skin of persons exposed to extreme heat is liable to be affected with what is called "prickly heat;" an eruption of small pimples, or of minute blisters. In either case, the use of a tepid bath, with a little lead lotion, will allay the symptoms; and it may be well to take some cooling saline aperient.

Although continued exposure to heat produces these effects, it is now well known, that the living human body is capable of supporting, with impunity, exposure to an atmosphere of very elevated temperature, considerably above that of boiling water, provided the air be dry. The development of unusual heat at any part of, or over the whole body, is usually an attendant on feverish and inflammatory attacks. In scarlet fever, and in inflammation of the lungs this is particularly the case.[*]

The use of heat in the treatment of disease is very frequently alluded to in this work, more especially because it is not only one of the most extensively useful, but also one of the safest and most generally applicable remedial agents which can be placed in unprofessional hands. Heat may be used as a remedial agent, simply as a soother, or —if we may be allowed the expression—an anodyne. It may be used as a derivative, or as a counter-irritant. Its application in the latter form will be found alluded to under the article on the subject. In cases of severe pain such as colic, gall-stones, gravel, &c., heat properly applied, seems to act as heat simply, upon the nervous system, exerting an anodyne effect and relieving the spasm. For this purpose it may be used, by means of bottles or tins filled with hot water, hot bricks, &c., &c.; but these solid bodies are not so useful or pleasant as other more yielding agents; and bags filled with heated grain, oats, salt, bran, or some such material are to be preferred. Hooper's elastic cushions, which can be filled with hot water, are also admirable for the purpose. When a derivative—See *Derivative* —action is required, as it is in inflammation and inflammatory pain, then heat with moisture must be used, and nothing answers better than the agency of moist heated bran. The great effect of the heat and hot vapour when used, in these cases, is to produce perspiration from the part, and thus to combine this means of relief with the anodyne action of the elevated temperature. The use of heat, especially of moist heat, in the treatment of disease, is especially pressed upon the attention of the unprofessional reader, for it is a remedy almost always procurable, and almost always safely useable. There are, however, a few exceptional cases, in which the use of heat is not desirable. These are such as call for astringing rather than relaxing. Bleeding from, and swelling of various parts may be increased by heat, which must therefore be avoided.

Refer to—*Animal Heat—Bran—Fomentation—Poultice, &c.*

HECTIC, or Hectic Fever, is an intermittent form of fever which occurs in the latter stages of consumption, and also of other diseases of a slow wasting character The paroxysm of hectic, usually comes on towards six o'clock in the evening, the person becomes heated, perhaps thirsty, the eyes are brighter than usual, the cheeks reddened—sometimes beautifully coloured —and display the circumscribed "hectic flush," at the same time, an almost morbid elevation of spirits is not uncommon. Towards midnight, the stage of fever is succeeded by that of perspiration, which increases as morning approaches, till towards four or five o'clock the patient is completely soaked in moisture and is left in a state of painful exhaustion.

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[*] It has lately been proved by a most extended and careful series of experiments that 98° Fahrenheit is the average temperature of the human body in health, and that in fever and inflammation, the temperature, (as ascertained by a glass hand-thermometer, placed in the arm-pit) exceeds this by 4°, 6°, or 8°. This is no less the case when the patient complains of cold and shivers, for while the skin feels cold, the blood is heated.

Refer to—*Consumption*, *&c.*

HELLEBORE.—Black Hellebore, or Christmas Rose.—The root has been used as a purgative since ancient times, particularly in cases of insanity, &c.*

HEMATEMESIS.—Bleeding, or vomiting of blood from the stomach.

HEMATURIA.—Flow of blood from the bladder.

HEMICRANIA.—Pain confined to one side of the head. It is generally of a neuralgic, or rheumatic character, and is often relieved by hot fomentation.

HEMIPLEGIA.—See *Paralysis.*

HEMLOCK.—Conium Maculatum.—This well-known native plant belongs to the umbel bearing tribe. Persons frequently call all plants of this tribe "hemlock," but erroneously. The true hemlock may at once be distinguished by its being the only British plant belonging to the *umbelliferæ*, which has a *smooth spotted* stem. The knowledge of this fact may be useful in case of alarm, not unfrequent, from children having eaten the leaves of such plants in mistake for parsley. The leaf of the hemlock is a very deep green, and, when bruised, emits an odour like that of mice. Hemlock is used by medical men as an occasional substitute for opium. Domestically, the leaves may be used externally, as a poultice, in painful ulcerations or tumours.

In persons poisoned by hemlock, the symptoms are giddiness and dimness of sight, convulsive twitchings, paralysis, perhaps vomiting. The same treatment as that recommended in poisoning by belladonna may be adopted until medical aid can be procured. The use of strong coffee or green tea will also be advisable.

HEMOPTYSIS.—Bleeding from the lungs, or "Spitting of Blood."

HEMORRHAGE—Bleeding—is the escape of blood from its own proper vessels, but the term is usually applied to cases in which the effusion takes place in considerable quantity, and is rapidly poured out. Hemorrhage may be either external or internal; in the former instance, it is almost invariably the result of wound of some blood vessel, either artery or vein; in the latter, the blood *may* also be poured out by a large vessel, but generally, it is exuded through the lining membrane, or into the
tissues of the part in which it occurs, fro
the minute vessels, so minute indeed, tha
after fatal cases of internal hemorrhage, th
closest examination may fail to detect an
visible opening, or openings from which th
blood can have escaped.

For information respecting extern
hemorrhage, or such as occurs fro
arteries or veins, the reader is referred t
the articles under these heads.

Internal hemorrhage, when it does occu
from a large vessel, is the result of th
vessel having been opened by disease, suc
as aneurism—see *Aneurism*—or by ulce
ation; but these instances are comparativel
few. The head is an exception, however, t
this remark, for hemorrhage within its cavit
is almost always occasioned by the ruptu
of a vessel.—See *Apoplexy*, *Brain*. Hemo
rhage from piles is also exceptional.—Se
Piles.

Internal hemorrhage may be either of a
active or of a passive character; that is, i
the former case the effusion of blood i
preceded and accompanied by feveris
symptoms, quickened pulse, thirst, with
sensation of fulness, and heat in the pa
whence the blood flows; in the latter, thes
symptoms are absent. The effect of activ
hemorrhage is, generally, to give relie
either to the constitution at large, or to th
particular part; indeed, by some, activ
hemorrhage is regarded as a natural cu
of what might otherwise prove an attack o
inflammation. Passive hemorrhage, on th
other hand, almost invariably weakens; i
is the result of weakness and relaxatio
which its occurrence tends to increase.

As may be imagined, in the treatment o
hemorrhage generally, medical men have t
keep these differences distinctly in min
lest, by interfering with, too precipitatel
or checking too soon an active hemorrhag
they may thwart the natural curative effort
or by permitting passive loss of blood t
continue, they allow a patient to be unne
cessarily, perhaps irremediably weakened
Moreover, it is necessary in the treatmen
of hemorrhage, to consider whether the flo
may not be what is called "vicarious," tha
is, a substitute for some natural discharg
which has been checked, or whether it ma
not have become a habitual safety-valve
The danger of checking long-accustome
discharge of blood, such as that from pile
is matter not only of popular belief, but—
and perhaps justly—of strong popular pre
judice, having become so from the notabl
frequency with which attacks of othe
disease, particularly of apoplexy, have fol
lowed the suppression of accustomed dis
charges. Medical experience abundantl

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* The root of the White Hellebore, which belongs to a different natural order, has been in use for a numbe
of years as an irritant external application, as also in the compound sulphur ointment for the treatment o
itch. It promises to be of great value in medicine. At present the Tincture of Green Hellebore is success
fully used in America as a febrifuge—five to ten drops being a moderate dose.

supports the general opinion on this head, and it is a well-understood rule, that habitual hemorrhages should never be interfered with so long as they do not touch the general health and strength.

As regards the management of or interference with continued cases of hemorrhage, therefore, unprofessional persons ought not, and cannot with any propriety have anything to do; but when the occurrence itself actually takes place, a knowledge of the best mode of proceeding may be of much service, for though in the case of active hemorrhage, benefit *may*, up to a certain point, be derived from the circumstance, the process might, possibly, especially if improperly managed, run on to an undue extent, and even affect life.

Hemorrhagic exudation of blood is more liable to occur from some parts of the body than others, and particularly from the mucous membranes which line the nasal and air-passages generally, from the alimentary canal, and genito-urinary organs. "Another important fact in respect to hemorrhages by exhalation is, that they proceed more frequently from certain parts of these mucous membranes than others, according to differences in age. Thus, in children they are most common from the membrane that lines the nasal cavities; in youth, from the mucous membrane of the lungs and bronchi." In middle life, from the bowels or bladder, or in the head.

When an individual is suddenly seized with bleeding or hemorrhage from any part, as a general rule, perfect quietude of body and mind should be observed, and cold is the simplest and readiest astringent, applied in the various forms of cool air, cold water, &c., &c. Medicinal astringents[*] see *Astringents*—may be resorted to, and should the resulting depression be extreme, stimulants *may* be required, but their administration calls for the greatest caution, and it must be remembered, that the state of depression may be the chief security to the patient against an immediate return of the bleeding.

The causes of hemorrhage are various. As might be expected, general plethora, or superabundance of blood is a common one, hence, persons who take but little exercise, and live freely, are liable to it more than others. Perhaps the most general cause of hemorrhage, is congestion, or accumulation of blood in any one part or organ of the body, in consequence of some impediment to the circulation; thus, disease of the heart, by damming up the blood in the lungs, or disease of the lungs themselves which impedes the flow, may, either of them, cause spitting of blood; or disease of the liver may cause hemorrhage from the bowels. In some particular states of constitution, there appears to exist a strong tendency to effusion of blood, this is seen in scurvy, and in the disease called purpura, or, popularly, the "purples." Moreover, there is a certain constitutional tendency, or "diathesis," called the "hemorrhagic," in which a more than usual liability to bleed from slight wounds exists. In persons who possess this diathesis, even the extraction of a tooth may, and has proved fatal, in consequence of uncontrollable bleeding. The tendency is hereditary, and those who inherit it must be extremely cautious before submitting to even trifling operations, which involve breach of surface and effusion of the vital fluid.

Bleeding from the nose—*Epistaxis*—is sometimes very profuse, and, either on this account, or from frequent repetition, may be the source of great weakness, in constitutions that can ill afford the drain, for its occurrence is not uncommonly associated with tendency to chest affection. Many various methods for its suppression are had recourse to, but cold applied to the forehead, spine, or other parts of the body, is the most general. Raising both arms above the head has been said to stop the flow quickly, or a small quantity of solution of alum, as strong as it can be made, may be thrown up with a syringe; or a piece of linen, soaked in the solution, may be stuffed up the nostril. From ten to fifteen drops of dilute sulphuric acid may be given in water at intervals, according to the nature and persistence of the attack.

Bleeding from the nose, in persons advanced in life, must be much more cautiously interfered with than in the young. In the former, it is generally preceded by symptoms indicative of congestion about the head, and, consequently, is a natural relief. It may, of course, go to an extreme extent, and require checking.

Bleeding from the lungs, or spitting of blood, is generally preceded by symptoms indicative of undue determination or congestion of blood to, or in these organs. Oppressed breathing, cough, pain in the chest and feverish symptoms usually precede the attack, and just previous to it a saltish taste is generally perceived. Bleeding from the lungs may occur in every degree, from a mere tinge of the expectoration, to the copious coughing up of fluid blood. The blood is coughed up, whereas, when it comes from the stomach, it is vomited, a distinction which *appears* evident enough, but which is not always readily made in practice. The management of hemorrhage from the lungs, must be that recommended for hemorrhage generally. Until medical assistance can be procured, perfect quiet is to be observed, cool air, especially on the chest, freely admitted, and cold, or iced and acidulated drinks given plentifully. Alum will also be found useful.—See *Alum*. Should the attack continue, and medical assistance still be absent, cupping on the chest, or between the shoulders, might be had recourse to. Sulphuric acid may be given as recommended for bleeding from the nose, or in an extreme case, when medical aid is far distant, one grain and half of sugar of lead may be given, made into pill with crumb of bread, every two, or three, or four hours, being washed down by a draught of vinegar and water. The expressed juice of the common nettle is sometimes popularly used, and, it is said, efficaciously, to check bleeding from the lungs; the dose one tea-spoonful three times a-day. The inhalation of the smoke from the burning leaves of the belladonna, is said to check the immediate flow of blood from the lungs. For this purpose one drachm of the cut and dried leaves is to be thrown upon glowing coals. In tendency to passive hemorrhage from the lungs, Dr. Theophilus Thompson recommends the following lozenge to be used as occasion may require. Take of powdered gum arabic, and of white sugar, each three drachms; powdered tragacanth one drachm and a half, alum two drachms, catechu three drachms, rose-water sufficient to form a mass which is to be divided into sixty lozenges.* When the cough is troublesome, it will be best allayed by a few drops of laudanum.

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[*] Perhaps the best astringent with which we are acquainted, for outward application in case of hemorrhage, is a saturated solution of Perchloride of Iron in Glycerine. This may be applied with a hair pencil to the bleeding surface.

The causes of hemorrhage from the lungs are such as have been named above; persons of scrofulous constitution, or who have any malformation of the chest are most liable to suffer from it. It rarely occurs in children. The exciting causes of this form of hemorrhage, are such as call the lungs into active, strong, or continued exertion, such as violent bodily movements, much loud exercise of the voice, playing on wind instruments, &c.; these things must therefore be sedulously avoided by those who have any tendency to the disorder. Temperance and moderation, strict attention to the condition of the bowels, and to any accidental disorders of the chest, will be the best safeguards. Whilst treating of this subject, it should be mentioned that persons are often needlessly much alarmed, from thinking they are expectorating blood, whilst the fluid simply comes from the throat or gums, or, it may be, in the consequence of blood from the nose trickling down the back of the throat. It perhaps is scarcely necessary to add, that the above details of management are not meant to stand in the place of competent medical advice. This should never be dispensed with in so serious a disorder as spitting of blood.

In hemorrhage from the stomach, "Hematemesis," the blood is vomited, not coughed up; its causes and treatment, modified, of course, by the difference in the organ, and its site, are similar to those detailed in hemorrhage from the lungs. Vomiting of blood in young females, is not a very uncommon accompaniment of disorder of the menstrual functions, and can scarcely be considered a dangerous affection. The restoration of the proper excretion is, of course, the most effectual remedy.

Vomiting of blood may happen in consequence of blood which has been effused from the nose having been swallowed; in this case it is generally darkened by the digestive action of the stomach. Blood from the lungs is generally much more frothy than that ejected from the stomach. In either case, the more florid the hue, the more active or inflammatory the hemorrhagic tendency. Profuse discharge of blood from the bowels often occurs in the course of fever, or from diseases of the abdominal organs, such as the liver, &c. Flow of blood from the bladder,—"Hematuria,"—will be adverted to under article *Urine*.

Refer to—*Abortion*—*Artery*—*Childbirth*—*Piles*—*Veins*—*Wounds*, *&c.*

HEMP, or INDIAN HEMP, from which the "Haschisch" of the Arab, the Bhang and Gunjah of the East Indian is obtained, is used by Asiatics on account of its intoxicating properties, and is coming into use in medical practice in this country for its anodyne powers, particularly in neuralgia.

HENBANE—HYOSCYAMUS NIGER—is a native of Britain, and of Europe generally, being found on road sides and uncultivated ground, particularly in the vicinity of houses. It is, however, cultivated for medicinal use. Henbane grows from one to three feet high; its leaves are large, the edges waved,—sinuous,—pale green, and viscid, the flowers are dingy yellow, and much and darkly veined, the whole plant smells disagreeably. Henbane is one of the narcotic substitutes for opium most generally employed. It is given either in tincture or extract, the dose of the former from ten to thirty drops, of the latter from five to ten grains.

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* Lozenges of Tannin or Tannic Acid are now introduced into the British Pharmacopœia, and will probably be found superior to the above form.

The action of henbane is, in many respects, similar, but much inferior in power to opium; it possesses, however, one great advantage over that drug; it does not confine the bowels; it is, therefore, a most admirable addition to medicines, particularly purgatives, which are apt to gripe: in many cases, the addition of one-third of extract of henbane to the compound colocynth, and other aperient pills, is of much service. It sometimes occasions—in too large doses—a peculiar state of delirious hallucination. In a case of poisoning by henbane, treatment similar to that recommended under "Belladonna" should be adopted.

HEPATIC.—Belonging to the *Liver*.

HEPATITIS. — Inflammation of the *Liver*.

HEREDITARY TENDENCY. — The transmission of a tendency towards certain forms of disease from parents to children, and from ancestry generally to their descendants, has been an acknowledged fact from remote ages; a proof of the unmistakeable character and frequency of the incident. Some portions of the body are more liable to be affected by transmission than others, "but no organ or texture is exempt from the chance of being the subject of hereditary disease;" and although some diseases are well known to be much more generally inherited than others, we have no means of determining how far the limitation extends, or whether indeed it does not include diseases generally within its bounds.

Although there are maladies, such as small-pox, which are so directly inherited that the offspring is actually found to be affected with them when born; this is not the common rule, the hereditary taint acting rather by giving the bias to the development of the disease; and it is observed, that those children which more nearly resemble the parent in physical conformation, are more likely also to resemble, in liability to certain forms of hereditary affections. It is not necessary, however, for the transmission of hereditary disease that it should be developed in the parent, who, although the connecting link between a grandparent and grandchild as regards the disease bias, may yet have been entirely free from the transmitted disorder. In other words, a hereditary tendency to disease seems often to skip over one generation.

Hereditary predisposition may be derived from a parent direct, and from a parent only, in whom a certain state of disorder has been developed, independent of previous hereditary influence; whatever debilitates the system, whether it be advanced life, dissipated habits, or the like, is almost certain to affect the children, and may originate a tendency to scrofula in a family previously free from it. Even a transient bodily condition seems frequently to influence the offspring, more particularly as regards the nervous system; drunkenness in the parent produces idiotic children; mental excitement communicates its own tendency.

Again, disease apparently hereditary may be developed in a family without its being traceable in the descent, that is, the children, many, or all of them, may be liable to certain forms of disease, towards which neither the parents or ancestors generally had displayed any marked tendency. The fact is one not uncommonly met with.

Scrofula and consumption, gout and rheumatism, insanity and paralysis, asthma, epilepsy, blindness, and a good many other diseases are well ascertained to be transmitted by hereditary tendency. It is not, however, necessary that the tendency should develope itself under the exact form of the disease of the parent; thus, scrofula instead of shewing itself as consumption, may take the form of insanity, or gout may be substituted for gravel.

The practical importance of a knowledge of these hereditary tendencies is self-evident. There are perhaps few, if any, who do not inherit some predisposition to certain forms of bodily disorder, it must, therefore, be not only to the advantage, but it must be the duty of every responsible person to consider what these predispositions are in himself, and to endeavour, as far as circumstances will permit, to avoid their being excited; still more important is it, in the contraction of marriage, to consider whether union with one having similar hereditary tendencies will not certainly entail upon offspring, an irremedial predisposition to disease thus devolved upon them from both parents. This argument derives tenfold force, if the parents happen to be nearly related by blood, for even in healthy families, the marriage and intermarriage of near relatives almost certainly leads to the production of weakened and weakly descendants.

Refer to—*Marriage*.

HERNIA means the protrusion of a portion of any organ from the cavity in which it is naturally contained; thus, there is hernia of the brain, or of the lungs; the term is, however, most generally applied to the protrusion of part of the contents of the abdomen.—See *Rupture*.

[*] **HERPES.**—A disease of the skin, characterized by the eruption of aggregations

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[*] HEROIC is a term applied to treatment of a violent character.

of small blisters. Shingles is a form of herpes.—See *Skin.*

HERRING, like the other oily fishes, is apt to disagree with weak stomachs.

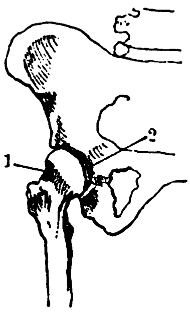
HICCUP is a spasmodic affection of the diaphragm—See *Diaphragm.*—Generally a trivial and transient inconvenience, its occurrence in the last stages of acute disease is a grave, often a fatal, symptom, indicative of giving way of the nervous system generally.

Continued and obstinate hiccup sometimes occurs in the persons more especially of young females of a hysterical tendency, and may continue for weeks without cessation, except during the hours of sleep, in spite of all kinds of treatment. The causes of ordinary hiccup are generally fasting, or some sudden stimulant taken into the stomach, such as highly-seasoned soup; and the affection generally subsides of its own accord. When inconvenient, nothing is so likely to remove it as some active emotion of the mind suddenly excited. The continued sipping and swallowing of cold water is a frequent domestic remedy, or antispasmodics, such as sal volatile may be useful. In the attacks of continued hiccup above-mentioned, a medical man should be consulted; but the disorder will frequently run its course in spite of his treatment. Acupuncture has been said to be a successful mode of treatment.

Refer to—*Hysteria.*

HIP-JOINT.—The hip-joint is formed on the one hand by the head of the thigh-bone—fig. A, 1—and on the other by the deep cup, or cavity—fig. A, 2—which is excavated for its reception in the bones of the pelvis, or hips, thus constituting a ball and socket-joint, which, although it ma suffer dislocation, can only do so from extreme violence in peculiar directions, an in peculiar positions of the limbs.

A



HIP-JOINT DISEASE.—Morbus Coxarius—is a disease of the joint just described, to which children of a scrofulou constitution are more peculiarly liable. I is of the highest importance as regard ultimate results that this affection shoul be placed under proper surgical treatmen in the earliest stage in which it can b detected; but its approaches are often s insidious that in most cases it has mad considerable advance before it is even suspected by parents that there is anythin wrong. The following description by Professor Syme may perhaps put some upo their guard:—

"Hip disease prevails in cold moist climates, and attacks chiefly children betwee the ages of seven and fourteen, though i is not unfrequently met with both befor and after this time of life. The firs symptom complained of, is generally pai of the *knee* which often exists for month before any indication can be perceived o the true seat of the disease. Sooner o later the patient is observed to walk awkwardly and less vigorously than usual; an when the circumstances on which this difference depends are investigated, it appear that the affected limb is elongated and emaciated—that the convexity of the hip i flattened so that the furrow between it an the thigh is less distinct and more obliqu in its direction—and that, in standing, th foot is advanced a little before the othe one, with the toe slightly everted, and tha the patient does not rest his weight upo it. Pain is now felt in the hip-joint itsel and, though aggravated by motion, ofte becomes more severe from time to tim without any such cause of irritation. I is most apt to do so during the night particularly when the weather is wet an changeable. In this second stage, the disease remains generally several months, an sometimes a year or two. At length th symptoms which have been mentioned either disappear, and the limb recovers it former condition, or they are succeede by others still more disagreeable. In th latter case, the limb becomes considerabl shorter than the sound one; its mobilit at the same time being much impaired o altogether destroyed, and permanent rotation either inwards or outwards also takin place. Collections of matter now generall make their appearance, most frequently o the outer side of the thigh, but occasionall in the groin and hip. In some few instances but very rarely, the fluid of these abscesses is absorbed, but the ordinary course which it follows, is to issue externally through openings formed, either by ulceration, or artificially by the surgeon. The patient then, after a tedious illness, becomes hectic and dies; or recovers with a stiff joint, and a wasted useless limb."[*]

HOME-SICKNESS, or Nostalgia, is a peculiar affection of the mind to which the natives of mountainous countries, especially the highlanders of Scotland and the Swiss, are liable when at a distance from, and during prolonged absence from their homes. They are seized with a vehement desire to return, and if this is not gratified, melancholy, loss of sleep and appetite, and finally, perhaps, disease of the lungs, supervene. The emotion is liable to be excited by whatever recalls forcibly to the mind the beloved scenes; national music does this most strongly, so much so, indeed, that it has been found requisite to prohibit for a time the performance of certain airs when troops have been stationed abroad.

HOMŒOPATHY is the system of treating disease founded by Hahnemann, upon the principle that diseases presenting certain sets of symptoms are cured by medicinal agents, which have the power of exciting similar symptoms in the body of a healthy person to whom they may be administered. In conjunction with this principle, practical homœopathy enjoins the administration of the above medicinal agents in inconceivably minute doses. In a work like the present, it would be futile—in the limited space which could be allotted to the subject—for the author to attempt to lay before his readers, those reasons which, to his own mind, would render him loth to trust either his own life or the lives of his patients to homœopathic treatment.

HONEY—the well-known substance collected by bees from flowers, consists almost entirely of sugar, partly crystallizable, and partly not so; the first being similar to grape sugar, and capable of undergoing at once the vinous fermentation. Honey varies in degree as regards fragrance and taste, according to the flowers from which it is collected, and in some instances, it is even of a poisonous nature, in consequence of being collected from poisonous plants. As an article of diet, honey is wholesome for most persons, although with some it causes acidity, and others it gripes. It is slightly aperient. For medicinal purposes, especially domestically, honey is frequently used, and answers well as a pleasant addition to cough mixtures, &c. Mixed with a little vinegar or lemon-juice, it is useful in cases of sore-throat and cough, with adhesive expectoration. Honey is frequently used mixed with borax in cases of thrush in children, and in sore mouths generally. The form is a bad one in all such cases, and especially in the former disease.

Refer to—*Borax*.

HOOPING COUGH, or Chin Cough,—may be described as a spasmodic catarrh. It is one of those diseases of which one attack confers immunity from all future liability to the affection, and as it is generally passed through in childhood, hooping-cough is comparatively seldom met with in adults, although they are by no means exempt from it.

The first symptoms of hooping cough are those of common cold, which, having continued unrelieved for ten days or a fortnight, gradually assumes the spasmodic character of the disease, that is, the cough comes on in prolonged paroxysms, which present the following symptoms. After a succession of violent expulsive coughs, a long-drawn inspiration is made, accompanied with the peculiar crowing, or "hoop," which characterises the disease, and gives it its name; this inspiratory effort is again immediately followed by the same expulsive coughs, and the alternation continues until the child is relieved by the expectoration simply, of a quantity of glairy phlegm, or by vomiting, which also expedites the expectoration. Very soon after the paroxysm is over, the child resumes its ordinary condition, whatever that may be; and if the stomach has been emptied of food, generally, before long, complains of hunger.

Whilst the expulsive cough is going on the child seems on the point of suffocation; the face becomes swelled and livid, the veins turgid, the eyes projecting; the whole frame is so shaken, that the little patient seeks to steady itself by laying hold of some fixed object,—its nurse, a table, a chair,—indeed, children who have suffered some little time from hooping cough, instinctively run to some means of support as soon as they feel a paroxysm *coming* on.

The severity of hooping cough varies greatly; sometimes it is so mild a disease that it is scarcely possible to pronounce whether it has existed or not, no more than one or two "hoops" having been heard during its course; at others, the paroxysms of hooping and cough occur many times in the twenty-four hours. At first, the expectoration is thin, and got up with difficulty; as the disease advances, especially if favourably, it becomes more consistent, and is more readily parted with.

When hooping cough is on the decline,

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[*] It may be well to know that in some cases, and in certain stages of the disease, great relief, and possibly even permanent benefit is to be derived from keeping the limb permanently extended, that is, pulled downwards. This can readily be done by means of a weight attached to a bandage wound round the limb, and hung over a piece of wood at the bottom of the bed.

the paroxysms occur only at more distant intervals, and are shorter, in consequence of the greater freedom of expectoration. Bleeding at the nose is not at all an unfrequent consequence of a fit of coughing, and, in stout children, may be regarded as a relief. The duration of hooping cough may be from one month to six, according to circumstances, such as season, summer being the most favourable. When it exists alone it is not a serious disease; but when, as it too frequently does, it becomes complicated with head affection, such as convulsions, &c., or with inflammation of the lungs, it is transformed into a most dangerous malady, and carries off numbers of children, particularly very young children—under two or three years of age—to whom it is more fatal than to those at a more advanced stage of life, and who have passed the age of teething.

There is no question as to the contagious nature of hooping cough.

In one respect, hooping cough is like fever; it is a disease which, as far as our present remedies are concerned, has a course to run, and one we cannot prevent* but we can guide the disease in that course, and by watching symptoms, and meeting them, should they assume a conspicuous or alarming character, by appropriate treatment, prevent the affection from those complications which constitute it a disease of danger. In many cases, if the attack of hooping cough is tolerably mild, parents never require medical attendance; but in the event of their not doing so, it is their duty to watch their children closely, and on the slightest appearance, either of inflammatory affection of the lungs, or of a tendency to convulsion, to call in proper advice, using in the interval—if there must be one—such modes of management as are recommended under these articles. As regards the actual treatment of the disease itself, it is questionable whether any system of medicine is of very great service, but much depends upon proper and judicious management. The diet of the child should be strictly attended to, and ought to consist chiefly of milk and farinaceous preparations; in short, a mild unheating diet, meat being better avoided altogether, unless the child is very delicate, in which case, tolerably good broth will be the best mode of giving animal food. The bowels ought to be kept in as regular a condition as possible by means of simple aperients, and the child protected from the influence of weather.—See *Clothing*. Indeed, if hooping cough occurs in winter, the safer plan is to confine the child entirely to the house, and especially during the prevalence of the east winds i spring.

When expectoration is difficult, an emet of ipecacuanha, given three or four tim a-week, will be useful, and the simple coug mixture containing ipecacuanha wine ma be used regularly. If the cough is ve troublesome, a couple of grains of Dover powder, given to a child of three years of ag at bed-time, will moderate it; but the mo efficacious remedy within the author's e perience, is the combination of laudanu and tartarized antimony, or tartar emeti which, indeed, is sometimes used dome tically. For a child three years old, a sing grain of tartaric emetic is to be dissolved i an ounce and a half of water, and to th fifteen drops of laudanum are to be adde a tea-spoonful may be given every five six hours. Dr. Golding Bird recommen alum as in the following prescriptio Take of alum twenty-five grains, extract henbane twelve grains, syrup of poppi two drachms, dill water sufficient to ma a three-ounce mixture, of which a desser spoonful may be given every six hour Many other internal remedies for hoopin cough are given and recommended, such alkalies, cochineal, iron, &c., &c., but the already mentioned are sufficient for t management of the disease. Extern remedies, such as embrocations, are ofte employed; "Roche's Embrocation" h been in much favour for the purpose; it said to consist of olive-oil two parts, oil amber and oil of cloves each one part; is, therefore, stimulating, but probably an other stimulating embrocations, such camphorated or ammoniated oil, wou answer equally well. If anything can said to cure hooping cough, it is change air, which, in the *latter stages* of the affe tion, seems to act like a charm, and shou always, when circumstances permit, had recourse to. When the disease h passed, or is passing away, if the chil as perhaps it may be, is much reduce strengthening remedies, tincture of stee &c., with good diet may be required. F some time after an attack of hooping coug more than ordinary care must be taken guard against cold, which is very apt bring back—in degree—the symptoms, an even the "hoop."

It is repeated, hooping cough is not i itself a disease of danger, and, especially it occurs in summer time, may be safel and tolerably easily passed through wit judicious and simple management; bu should it become complicated, as mentione in the foregoing article, it may require all th care and skill of the physician to save lif

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* Occasionally, during the last few years, there have appeared notices of methods of treatment said to b "specific" for hooping cough, but the results obtained from a trial of these have disappointed the expec tations formed as to their value.

Refer to—*Bronchitis*—*Catarrh*—*Convulsion*—*Expectorants*, *&c.*

HOPS,—the well-known bitter agent, are the seed "catkins" of the *Humulus lupulus*, or hop-plant, which is native both to Europe and North America, and belongs to the nettle tribe. The elegant twining hop is too well known to require description. The hop is an agreeable aromatic bitter; it is, therefore, a stomach tonic; it possesses also narcotic properties, though not strongly marked ones; a pillow stuffed with hops is frequently used to procure sleep, and hops heated in a flannel-bag are a common remedy for toothache, neuralgia, &c. The use of hops to impart bitterness to beer was commenced in this country in the reign of Henry the Eighth, and there is no question that the addition is a perfectly wholesome one when not in excess; with this view, the highly-hopped bitter India beer, or pale ale, may also be regarded as a medicinal tonic; but it must also be a matter of doubt, whether its *continued* use, in cold climates at least, is beneficial. Bitter tonics, generally, should not be taken too long at a time, and there seems no reason why bitter beer should be an exception to the rule. The practice, therefore, of drinking it *regularly* cannot be recommended—as far at least as its tonic properties are concerned. The infusion of hop is a good tonic, in weak and irritable states of the stomach, either taken alone or combined with an alkali; it is made by infusing an ounce of hops in two imperial pints of water: the dose a tea-cupful. The young shoots of the hop plant are, in some places, cooked and eaten like asparagus, for which they do not form a very bad substitute.

HOREHOUND, or WHITE-HOREHOUND,—botanically named *Marrubium Vulgare*, is a tolerably common native plant; it is too, much cultivated in gardens in the country for domestic use, horehound-tea being in much request for coughs, &c.

HORSE-RADISH,—the well-known condiment, is the root of the *Cochlearia Armoracia*, one of the scurvy grass tribe. It is powerfully stimulant. An infusion may be made in the proportion of an ounce of the scraped root to a pint of boiling water, and might be used in the absence of other stimulants; or a poultice made of the scraped root might be used instead of a mustard plaster. The infusion made into a syrup with sugar, and frequently sipped, is said to be useful in loss of voice from cold.

HOSPITALS FOR THE SICK.* In large towns these benevolent institutions are an inestimable boon to the poor, more particularly in the present defective condition of sanitary arrangements. In them, with the exception of privacy, they have all that the wealthiest in the land can command: skill, cleanliness, food, medicines, and comforts of every kind. It is much to be regretted, that the inhabitants of rural districts are, in a great measure, deprived of the resources of an hospital of some kind, especially in the case of contagious disease invading their crowded cottages.

Amid the poor many unfounded prejudices and fears exist with respect to hospitals and hospital treatment; the following, from a most interesting popular account of St. George's Hospital in London, published in Dickens's *Household Words*, may perhaps add force to the assurance that nothing but the kindest and most considerate care is bestowed upon the poor in these most benevolent and most christian establishments:—

"A stranger's preconceived ideas of the sufferings in an hospital are not at all borne out by the appearance of the patients generally. Many of them are quietly reading the better-class cheap literature of the day; others are conversing round the ample fire. The little child with its leg in a splint is as merry as possible, with its bed covered with playthings. Everything that humanity can dictate, or to which art can minister, is supplied. The most eminent medical men—whose attendance sometimes the rich cannot purchase—watch the patient with all due art and skill; whilst carefully-trained nurses are at hand day and night, to ease his tired limb or to soothe his racking pain."

Refer to—*Bed-room.*

HOUSES.—Nothing, perhaps, will excite greater surprise amid future generations, than the condition of the houses or dwellings in which the mass of the inhabitants of Britain, of the nineteenth century, were satisfied in some instances, compelled in others, to spend the greater part of their lives.

There can be no question, that to the insalubrity of the dwellings of the poorer classes especially, and often of the rich, much disease is owing. This is, undoubtedly, in great measure due to ignorance, for, spite of the efforts of Health of Towns Associations, and of the many channels through which sanitary information has been attempted to be diffused of late years; it is astonishing how little real or practical information is retained by people generally. With respect to the various points connected with the salubrity of houses, the reader is referred to such articles in this work as "Bed-room," "Chimney," "Drainage," "Light," "Ventilation," "Water," &c.

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* The reader is referred to the Appendix for information as to cottage hospitals, which are now becoming so general throughout England, and promise to be of the highest usefulness. It will be shown that the author was the first to moot the subject of cottage hospitals, in a letter to the Journal of the British Medical Association many years ago.

It is to be regretted, not only for their own sakes, but for that of the community at large, that our poor are so generally, in a measure, compelled to inhabit the crowded and unwholesome dwellings they often do, particularly in large towns. When they have the power of the choice, the following considerations should be kept in mind. A house should not be chosen in a low damp locality; it cannot be well drained, and fever, rheumatism, neuralgia, &c., often prevail in such situations. A dry gravelly soil is the most to be preferred, one that is well drained naturally, a circumstance, however, which should not prevent strict attention to artificial drainage. Good ventilation, and supply of water, ought also to be regarded as essentials; neither is situation as regards regular employment an unimportant consideration. If a man's work is of a laborious active character, he cannot, perhaps, live too near the scene of it; but if, on the contrary, he is engaged in confining and sedentary employment, it may make all the difference between good and bad health, if the dwelling be at such distance as shall compel a regular moderate walk at least twice in the day.

The author cannot leave the subject of "Houses" without adverting to the idea, that amid the numerous schemes propounded for bettering the condition of our humbler classes, the facilities afforded by the unlimited powers of railway transit, have either been too much lost sight of, or are not yet sufficiently realized to men's minds. The necessities which in times past forced the population, first for the sake of defence, and latterly for the purposes of trade and commerce, to congregate in close-packed towns, have evidently passed away; the one has been left behind in the march of civilization, the other has vanished in the virtual annihilation of space and time by railway power: the mechanic who—under proper arrangements—may be conveyed in a quarter of an hour over six miles of rail, may, as regards time, be as near his daily workshop as he is now, living in the crowded centre. On this fact the proposition is based, that beyond three or four miles from most of our large towns, land, for the most part, ceases to be of extra value, and thus would permit of decent cottages being erected for, and gardens let to, the industrious mechanic, at an equally small, if not smaller rent than he now pays for his miserable room in the close unhealthy street; and at the s
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with which the suburban railw
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ing and lecture-room, its relig
vision, and whatever may assist
the character and moral statu
humbler class, for without that
there can be no firm foundation
efficient, and lasting sanitary ref
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people.

HOUSEMAID'S KNEE.—See

HUMERUS.—The anatomical
the arm-bone—fig. A. This bon

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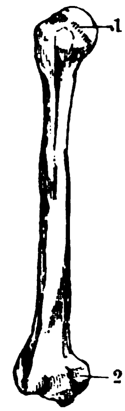

upper end,—1—articulated or j
the shoulder, to the shoulder-
"scapula;" and at the elbow, by
end,—2—to the two bones of the f

Refer to—*Fore-arm.*

HUNGER.—The desire for food is an instinctive sensation, evidently connected with the requirements of the body generally, and not solely with the condition of the stomach. In a healthy state, the appetite for food is in proportion to the waste of the body in exertion; in other words, if the motor change, or transformation, or using up of tissues, goes on more quickly, as it must necessarily do when much exertion is made, the tissue must be more abundantly supplied with nutriment, and *vice versâ*, if exertion be less. In any case, the call for nutriment is made through the medium of the stomach, by the sensation of hunger. The direct cause of that sensation is doubtful; some have referred it to a distended condition of the vessels, &c., of the stomach, but, however that may be, it is certain the brain and nerves participate largely in the feeling. Dr. Alison remarks, "Whatever be the conditions under which the nerves of the stomach become the seat of these sensations, it is certain that, in the healthy state, they are a true index, not only to the state of the stomach, but to the immediate wants of the system at large." To use a simile, the brain may be likened to a great central telegraph office, to which the wires —nerves—convey the information from all parts of the body that supplies are wanted, and this information is transmitted to the stomach by its own special means of communication,—or nerves,—and causes hunger, how and why this is, we cannot tell. Although, however, hunger is felt as a sensation in the stomach, in consequence of sympathy with the system at large; it is appeased by the introduction of food into that organ, long before the digestion of that food can have supplied the waste which called for it; to resume our simile, it would seem as if the stomach telegraphed back to the brain the information that the "order had been received and complied with,"—that food had been taken,—and so the sensation ceases. Moreover, the stomach may give false information, for it is well known, that the sensation of hunger may, *for a time*, be appeased by the swallowing of comparatively innutritious substances, which occupy the stomach, but which cannot be digested into nutriment for the system; and further, the sensation of hunger may be allayed by various medicinal substances, such as opium, tobacco, alcohol, &c., which do not nourish. Again, the information respecting the requirements of the system, conveyed to the stomach through the brain, may, so to speak, be stopped in transit; this is seen in the case of accidents; however hungry a man may be, if he should happen to sprain a joint, the appetite will disappear at once. Even mental emotions will, by their effect upon the brain, have the effect of destroying the sensation of hunger; and Shakespeare adverts to this observation, in the words addressed to Wolsey by King Henry the Eighth, along with an unpleasant communication,—

> "Read o'er this;
> And after this; and then to breakfast, with
> What appetite you may."

Intense engagement of the mind in study, or upon any subject which strongly excites its interest, it is well known will often overpower completely the sensation of hunger. This frequently happens to those who are much absorbed in scientific pursuits. The anecdote of the illustrious Newton is familiar to most,—a friend calling to see him was shewn into the room where Newton's dinner —a chicken—was spread out; being kept waiting, he ate the dinner and replaced the covers. The philosopher coming in shortly after, and finding his dinner gone, simply remarked, "dear me, I forgot I had dined." It is, perhaps, unnecessary to remark, that such complete forgetfulness of the wants of the body, is scarcely consistent with continued health, either of it or of the mind; and for it, even Newton paid the penalty.

The influence exerted by mental emotion over the sensation of hunger, may, however, tell both ways, for if it destroy real, it may excite false hunger, and this it frequently does; very many are in the habit of eating much more largely than the wants —the waste—of the system require. This may be the result of an unhealthy excitement of the nerves of the stomach, but much more generally, it arises from epicurism, or love of excess, the mind being the cause of a false hunger, or desire for tempting and unnecessary articles of food. This is frequently the case with people who live idle and indolent lives, and who, having little else to occupy either mind or body, take refuge in the indulgences of the table. The effects of this excitement and indulgence of false hunger, this habitual consumption of excess of food beyond what the wants of the system require, may, for a time, be compensated for by the various excretory powers of the body, but, sooner or later, disease must be the consequence.

The proper and permanent appeasement of hunger would seem, in some cases, to depend upon the fitness of the food taken for the circumstances of the system generally; every one with healthy appetite feels the desire for different kinds of food in winter and summer. Sir John Richardson mentions with regard to his arctic experience, that under exposure to intense cold, bread and such articles were not desired as food, which was always most acceptable when of as fat and oily a character as possible.

Refer to—*Animal Heat—Appetite—Digestion—Fasting—Food, &c.*

HYDATIDS—are parasitic beings belonging to the animal kingdom, which are found imbedded in the tissues, particularly the glandular ones of animal bodies.* The hydatid consists of a simple vesicle filled with fluid, and multiplies by the development of young hydatids in its interior.

HYDRAGOGUE—is a term applied to some purgative medicines which produce copious watery evacuations from the bowels. —See *Purgatives.*

HYDRARGYRUM.—Mercury or quicksilver.—See *Mercury.*

HYDRIODATE OF POTASSA.—See *Iodine, Potash.*

HYDROCELE.—A dropsical swelling within the scrotum. It requires proper surgical treatment for its cure, but a patient may derive much comfort by wearing a bag truss, or some similar support, until he is relieved by operation.

HYDROCEPHALUS.—"Water in the Head."—See *Brain.*

HYDROCYANIC ACID.—Prussic Acid. —See *Prussic Acid.*

HYDROGEN GAS is the lightest substance known, and when pure, has neither colour, taste, nor smell; the latter, however, is very frequently present in consequence of impurity. Hydrogen gas burns with a pale yellow flame, the product of the combustion is water, this fluid being a compound of oxygen and hydrogen gases in certain definite proportions. The union of hydrogen gas with sulphur constitutes the very offensive smelling gas, sulphuretted hydrogen, which is one of the products of the decomposition of organized bodies, and also forms the characteristic feature of many of the mineral waters, such as those of Harrowgate.

Refer to—*Carburetted Hydrogen.*

HYDROPATHY—is the system of treating disease by the use of water, both internally and externally, in the modes introduced by Priessnitz.

Of the utility of water as an agent in the treatment of *certain* diseases, there cannot be a question, when its employment is judiciously regulated, and combined with other methods of cure; but it is equally certain that its indiscriminate and wholesale use, as it has been practised in hydropathic establishments, is too often a most dangerous quackery a quackery, because it is put forth with pretensions to which it has claim, and used in an indiscriminate and judged manner. There are many conc tions of body—particularly that of the ove fed and the indolent—in which copio draughts of pure cold water, regulated a simple diet, exercise and promotion of t functions of the skin—all which are strict enjoined under the hydropathic treatme —must evidently be of the greatest servic nay, are in themselves sufficient to resto health, and medical men have, perhap too much neglected such natural metho of cure, in their confidence in mere druggin but it is no less certain, that an indiscrim nate and extravagant use of even the natural methods cannot fail to prove i jurious in many states of the system, and it has proved in many instances, and eve death has been the result of the exper ments; still, it must be owned, that the rise hydropathy has had the advantageous effe of directing more attention to the value water in the treatment of disease† and if t system itself has been mixed up with muc which must be considered dangerous erro that should be no reason why the usef suggestions which may be gathered from should not be taken advantage of; indee for medical men to refuse to do so, is place themselves in the same position the abettors of an exclusive system, or t vendors of a "panacea." Medical scien can only retain its high place by liberal i vestigation of those new phases in medic treatment, which must ever be arising i the progress of society, when these phas offer any tangible ground for such invest gation, and this, hydropathy certainly doe To refuse to investigate, or to refuse to ado that which is good, because it has been foun connected with some irregular system, is i itself quackery of the grossest kind, and the most certain way of strengthening t hands of charlatans or of fanatics.

Refer to—*Water.*

HYDROPHOBIA—literally "Dread water."—This fearful and justly-dreade disease is especially of a nervous and spa modic character, and is produced by i oculation with the saliva of an anim labouring under the malady; fortunatel it is of so comparatively rare occurrenc that very few medical men ever witness at all. For the information in the follow ing article, the author is indebted to th "Lectures" of Dr. Watson.

After a person has been bitten by a rabi dog the wound heals in the same mann as an ordinary wound from the same cau would. "After an uncertain interval-which lies for the most part between s weeks and eighteen months—the following symptoms begin to be noticeable. The patient experiences pain, or some uneasy or unnatural sensation, in the situation of the bite. If it have healed up, the scar tingles, or aches, or feels cold, or stiff, or numb; sometimes it becomes visibly red, swelled, or livid. The pain or uneasiness extends from the sore or scar towards the central parts of the body. Very soon after this renewal of local irritation—within a few hours perhaps, but certainly within a very few days, during which the patient feels ill and uncomfortable—the specific constitutional symptoms begin; he is hurried and irritable; speaks of pain and stiffness, perhaps about his neck and throat; unexpectedly he finds himself unable to swallow fluids, and every attempt to do so brings on a paroxysm of choking and sobbing, of a very distressful kind to behold; and this continues for two or three days till the patient dies exhausted." Hydrophobia has never been cured when once the decided symptoms have shewn themselves.

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* The presence of these parasites in the human brain is now ascertained to be commoner than was at o time supposed, and many cases of head affection terminating fatally, which were before put under the hea of Apoplexy, Cerebral disease, &c., are now known to be due to the presence of Hydatids, which, even i their most obscure forms, can be readily detected by those skilled in the use of the microscope.

† There can be no doubt that medical men generally do not pay sufficient attention to the benefit to b derived in certain cases from the various kinds of baths, as well as the application of cold or hot wate externally, wet sheets, &c., &c.

"Generally, the disease, when it has once set in, and shown the peculiar hydrophobic symptoms, runs a short and fierce course. The nervous irritability becomes extreme. The peculiar paroxysms of choking, spasm, and sobbing are excited, not only by attempts to swallow liquids, but by the very sight or sound of them. Even the passage of a gust of wind across his face, the waving of a polished surface, as of a mirror, before his eyes, the crawling of an insect over his skin is often sufficient to excite great irritation, and the peculiar strangling about the fauces in a hydrophobic patient. Death occasionally takes place within twenty-four hours after the commencement of the specific symptoms. Most commonly of all, it happens on the second or third day;" but may be postponed even to the seventh or eighth. In some instances, the symptoms alter before death, and the patient is able to swallow liquids.

With respect to the infection of hydrophobia, Dr. Watson says:—"We are sure that the disease, by the inoculation of which hydrophobia may be produced in man, is common in the dog, and that it has been communicated by the fox, the wolf, the jackal, and the cat. Mr. Youatt says, that the saliva of the badger, the horse, the human being, have undoubtedly produced hydrophobia, and some affirm that it has been propagated even by the hen and the duck. All animals, even fowls, are susceptible of the disorder, when bitten by a rabid dog.

The late Mr. Youatt, who had seen more of the disease, probably, both in man and in other animals, than any other person in this country, did not think that the saliva of a rabid animal could communicate the disorder through the unbroken cuticle: he believed that there must be some abrasions, or breach of surface. He held, however, that it might be communicated by mere contact with the mucous membranes.

Of its harmlessness on the sound integument, he offered this presumption—that his own hands had many times with perfect impunity, been covered with the saliva of the mad dog. He records some singular instances in which the disease was transmitted by contact of the saliva with the mucous membranes. "A man endeavoured to untie with his teeth a knot that had been firmly drawn in a cord. Eight weeks afterwards he perished undeniably rabid. It was then recollected that with this cord a mad dog had been confined. A woman was attacked by a rabid dog, and escaped with the laceration of her gown. In the act of mending it, she thoughtlessly pressed down the seam with her teeth. She died. If these cases be authentic, they are conclusive of this question; unless, indeed, the lips of those who perished happened to have been chapped, or abraded. But Mr. Youatt's own opinion was, that the virus could not be received on a mucous surface without imminent danger.

The disease is said to have been caused by the *scratch* of a cat. But as we know that cats as well as dogs frequently apply their paws to their mouths, especially when the latter part is uneasy (as it clearly is in mad dogs) this fact, of the production of the disease by a scratch, if thoroughly made out, would not *prove* that the disease can be introduced into the system in any other way than by means of the saliva.

"It is still more interesting to inquire, whether the saliva of a human being labouring under hydrophobia, be capable of inoculating another human being with the same complaint? Mr. Youatt says, yes, that the disease has undoubtedly been so produced. If this be so, the fact will teach us—not to neglect or desert these unhappy patients—but to minister to their wants with certain precautions so as not to suffer their saliva to come in contact with any sore or abraded surface; nor with any mucous surface. On the other hand, all carefulness of that kind will be unnecessary, if the disease cannot be propagated by the human saliva. Certainly, many experimenters have tried in vain to inoculate dogs with the spittle of hydrophobic man; but there is one authentic experiment on record, which makes it too probable that the disease, though it may not be communicated often, or easily, is yet communicable;" enough to enforce all necessary caution upon those engaged in attending upon a hydrophobic patient.

"*Is a man who has been bitten by a mad dog, and in whose case no precautions have been taken, a doomed man?* Will he be sure to have the disease, and therefore to die of it? By no means. *But few, upon the whole, of those who are so bitten become affected with hydrophobia.* This frequent immunity from the disease in persons who have been bitten has tended to confer reputation upon many vaunted methods of prevention. Ignorant persons and knavish persons have not failed to take advantage of this. They announce that they are in possession of some secret remedy which will prevent the virus from operating: they persuade the friends of those who die that the remedy was not rightly employed, or not resorted to sufficiently early: and they persuade those who escape, that they escape by virtue of the preventive remedy. If the plunder they reap from the foolish and the frightened were all, this would be of less consequence, but unfortunately the hope of security without undergoing a painful operation leads many to neglect the only sure mode of obtaining safety.

" * * A still more anxious enquiry next arises. Whoever has been bitten by a rabid or suspected animal must be considered, and will generally consider himself, as being in more or less danger of hydrophobia. This dread is not entirely removed, even by the adoption of the best means of prevention. Now, how long does this state of hazard continue? When is the peril fairly over? After what period may the person who has received the injury lay aside all apprehension of the disease? To this enquiry, no satisfactory reply can be given. In a vast majority of instances, indeed, the disorder has broken out *within two months* from the infliction of the bite. But the exceptions to this rule are too numerous to permit us to put firm trust in the unanimity afforded by that interval.

" * * Mr. Youatt describes cases in which there had been no symptoms of rabies observed in the dog, at the time the injury was inflicted, though soon afterwards the animal became decidedly rabid. It is much to be regretted that the dog is so often destroyed. When a person has been bitten by a dog or cat suspected to be rabid, the beast ought by no means to be killed, but to be secured and kept under surveillance, and suffered, if it should so happen, to die
of the disease. If he do not die
words, if he be really not rabid,
soon appear, and the mind of th
will then be relieved from a ver
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months or years. Should the
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the first instance; nay, in one r
will be better off, inasmuch as ce
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doubt.

"There are gross errors preva
regard to the signs of madness in
If a dog be seen in a fit in the str
person charitably offers a conjec
perhaps he may be mad; the ne
has no doubt of it, and then wo
dog. But Mr. Youatt assures u
rabid dog never has fits; that the
of epilepsy is a clear proof that
no rabies. Again, it is a very
belief, that a rabid dog, like a hy
man, will shun water, and if h
a river, *that* is thought to be c
evidence that he is not mad.
truth is, that the disease in the q
cannot be called *hydrophobia;* t
dread of water, but an unquenchab
no spasm attending the effort to
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They fly eagerly to the water;
Youatt states that all other qu
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the horse, drink with ease, and
creased avidity.

"There is another superstitious
not at all uncommon, viz., that hea
recognize one that is mad, and
and run away from his presence,
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instinct warning them of danger.
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Youatt says, weary and exhausted
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It will not be out of place to s
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the dog, and as described by Mr.

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fast gaze expressive of suspicion, a
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generally be found. If the ea

affected part, the dog is incessantly and violently scratching it. if it be the foot, he gnaws it till the integuments are destroyed.

"Occasionally, vomiting and a depraved appetite are very early noticeable. The dog will pick up and swallow bits of thread or silk from the carpet, hair, straw, even dung, and frequently he will lap his own urine, and devour his own excrement. Then the animal becomes irascible, flies fiercely at strangers, is impatient of correction, seizes the whip or stick, quarrels with his own companions, eagerly hunts and worries cats, demolishes his bed, and, if chained up, makes violent efforts to escape, tearing his kennel to pieces with his teeth. If he be at large, he usually attacks only those dogs that come in his way; but if he be naturally ferocious he will diligently and perseveringly seek his enemy.

According to Mr. Youatt, the disease is principally propagated by the fighting dog in towns, and the cur, or lurcher, in the country; by those dogs, therefore, which minister to the vices of the lower classes in towns and country respectively. He maintains that if a well-enforced quarantine could be established, and every dog in the kingdom confined separately for seven months, the disease might be extirpated.

"Very early in the disease, as it appears in the dog, the expression of countenance is remarkably changed; the eyes glisten, and there is slight squinting. Twitchings of the face come on. About the second day a considerable discharge of saliva commences; but this does not continue more than ten or twelve hours, and is succeeded by insatiable thirst; the dog is incessantly drinking or attempting to drink; he plunges his muzzle into the water. When the flow of saliva has ceased, he appears to be annoyed by some viscid matter in his fauces; and in the most eager and extraordinary manner he works with his paws at the corners of his mouth to get rid of it; and while thus employed, he frequently loses his balance, and rolls over.

"A loss of power over the voluntary muscles is next observed. It begins with the lower jaw, which hangs down, and the mouth is partially open; but by a sudden effort the dog can sometimes close it, though occasionally the paralysis is complete. The tongue is affected in a less degree. The dog is able to use it in the act of lapping; but the mouth is not sufficiently closed to retain the water. Therefore, while he hangs over the fluid, eagerly lapping for several minutes, it is very little or not at all diminished. The paralysis often attacks the loins and extremities also. The animal staggers about and frequently falls. Previously to this, he is in almost incessant action. Mr. Youatt fancies that the dog is subject to what he calls spectral illusions. He says he starts up, and gazes eagerly at some real or imaginary object. He appears to be tracing the path of something floating around him, or he fixes his eye intently upon some spot in the wall, and suddenly plunges at it; then his eyes close, and his head droops."

"Frequently, with his head erect, the dog utters a short and very peculiar howl; or if he barks, it is in a hoarse inward sound, altogether dissimilar from his usual tone, and generally terminating with this characteristic howl. Respiration is always affected; often the breathing is very laborious; and the *inspiration* is attended with a very singular grating, choking noise. On the fourth, fifth, or sixth day of the disease he dies, occasionally in slight convulsions, but oftener without a struggle.

"Most people think that the disease is generated, *de novo*, in the dog at least; and causes have been assigned for it which certainly are not the true or the sole causes. Thus, hydrophobia in the dog has been ascribed to extreme heat in the weather. It is thought by many to be particularly likely to occur in the dog-days; and to be, as Mr. Mayo observes, 'a sort of dog-lunacy, having the same relation to Sirius that insanity has to the moon; which, indeed, in another sense is probably true.' Many cautions are annually put forth about that period for muzzling dogs, and so on. Very good and proper advice, but if those who have noticed the statistics of the disease may be depended upon, it would be as appropriate at one period of the year as at another. Rabies occurs nearly as often in the spring, in the autumn, and even in winter as it does in summer. M. Trolliet, who has written an interesting essay on rabies, states that January, which is the coldest, and August, which is the hottest month in the year, are the very months which furnish the fewest examples of the disease. The disorder has often been ascribed to want of water in hot weather, and sometimes to want of food. But M. M. Dupuytren, Breschet, and Magendie have caused both dogs and cats to perish with hunger and thirst without producing the smallest approach to a state of rabies. At the veterinary school at Alfort, three dogs were subjected to some very cruel, but decisive experiments. It was during the heat of summer, and they were all chained in the full blaze of the sun. To one, salted meat was given, to the second water only, and to the third neither food nor drink. They all died, but none of them became rabid."

When an individual has been bitten by an animal, respecting which the slightest suspicion of hydrophobia exists, the *one* remedy cannot be too quickly resorted to, complete excision of the bitten part. Some persons have possessed sufficient nerve to do this for themselves, few perhaps could, but it has often been effected by unprofessional persons for others; indeed, there might be more danger in waiting many hours for a surgeon, than in submitting to unprofessional operation. The method of excision most to be trusted, is the insertion of a skewer of wood, made to fit into the wound caused by the tooth, and carrying the incision so far round, that the entire hollow or cone of flesh is cut out along with the piece of wood. This might be done with safety in the thick part of the calves of the legs, or on the back parts of the thighs or buttocks. Where excision is not resorted to, the free application of lunar caustic or of aqua-fortis, whichever may be most readily procured, would be advisable; or in lieu of these, a piece of iron, heated to *whiteness*, may be inserted into the wound, so as thoroughly to destroy the surface which may have been poisoned. These may seem severe measures, but they are light compared to the unceasing anxiety of mind which must haunt a person who, after having been bitten, feels that due precaution has not been taken; and light indeed compared with liability to the disease itself. In the event of none of the above measures being submitted to, or available, the wound may be thoroughly washed for hours, by means of a stream of warm water poured upon it from a height; a cupping-glass being applied at intervals. These measures are of course only provisional, until the attendance of a surgeon can be procured.

As might be imagined, the preventive medicines for hydrophobia are very numerous; some have been thought highly of by medical men, but for the most part they are secret quack remedies, and perfectly worthless. It is absolute folly to trust to them, to the exclusion of the only certain preventive—excision or destruction of the wounded tissues.

When, from the peculiar symptoms, and taken in connection with the circumstances altogether they can scarcely be overlooked, an individual is thought to be attacked with hydrophobia, if the hope of saving life is small, much may be done to alleviate so terrible an affliction by proper medical care, which must be sought for at once; in the meantime, whilst all those sights and sounds alluded to in the first part of this article, are carefully avoided as fearful aggravation to the necessary suffering, laudanum may be given in thirty-drop doses, and repeated as circumstances seem to dictate. If ice can be taken, it is said to afford relief, put into the mouth in small morsels; it has also been found of service applied to the back of the neck. If, on the arrival of a medical man, he likes to try any of the various remedies which have been proposed in this disease, he of course can do so, but the above-mentioned will be sufficient for lay interference.

The general interest and anxiety, and the very erroneous ideas on the subject of hydrophobia which are entertained by people generally, have rendered the length of this article necessary, and in taking it almost entirely from the valuable writings of Dr. Watson, the author has endeavoured to draw, from the best possible source, information which, *fortunately*, few medical men have an opportunity of acquiring personally.[*]

HYDROTHORAX.—Water in the chest.—See *Dropsy*.

HYDROSTATIC BED.—See *Bed*.

HYGIENE.—The science of the preservation of health.

Refer to various sanitary articles such as—*Air*—*Bed-room*—*Climate*—*Food*—*Heat*—*Ventilation*—*Drainage*, *&c*.

HYOSCYAMUS.—See *Henbane*.

HYPOCHONDRIA.—See *Abdomen*.

HYPOCHONDRIASIS.—See *Indigestion*.

[†]**HYPOGASTRIUM.**—See *Abdomen*.

HYSTERIA—is a disease more particularly manifested through the nervous system, and is, almost without exception, peculiar to females between the age of puberty and the fiftieth year of life. The affection is, but very rarely so, developed in the male sex.

Hysteria in the female, is unquestionably closely connected in sympathy with the womb and its functions, and few cases, perhaps, occur, in which there cannot be traced some disorder of this important organ as the exciting cause.

Hysteria may manifest itself particularly in three different modes. First, either as a pure nervous and spasmodic affection; second, as a simulator of other and more directly definable disease; and third, as a modifier of other diseases really existing. The varied forms of hysteria, and the way in which it modifies and masks, or closely simulates other more important affections, is apt to render it at times one of the most puzzling disorders with which the physician has to deal; it is one, moreover, especially liable to mislead the young or inexperienced practitioner.

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[*] It is note-worthy that we have made no advance in the treatment of this terrible disease, during the last ten years, although it has formed the subject of much careful investigation, and many valuable prizes have been offered at the leading medical schools, for the best essays on the subject.

[†] HYPODERMIC is a term applied to the method of injecting solutions of drugs under the skin by means of Wood's Syringe. In this way solution of the Muriate of Morphia, for instance, may be injected by a medical man, to relieve local pain, with the best effect.

A fit of hysteria may assume different forms, but, generally, the female becomes, *apparently* of a sudden, partially insensible, it may be, falls down, but more generally has sufficient warning to seat herself on a chair; the eyes are closed, the lids tremulous, the limbs are stretched out, and spasmodically and suddenly contracted at intervals, or there is violent struggling, the chest heaves, the heart, and vessels of the neck beat violently, the face is more or less flushed; frequently, the patient puts the hand to the throat and neck, as if to dispel some uneasiness, and not uncommonly gives utterance to incoherent or disconnected sentences, generally in a peevish or distressed tone of voice. In most cases the power of supporting the body when seated, remains, unless it is worked off the chair in the struggles. At length, the attack, having lasted for a longer or shorter period, from a few minutes to some hours, terminates, probably with a fit of sobbing and crying; the patient recovers consciousness, but is left exhausted and fatigued with the efforts and struggles, and, perhaps, falls into disturbed or heavy snoring sleep. When a fit has terminated, or even during its progress if continued, the kidneys act very freely, and large quantities of urine, almost resembling pure water, are voided.

Such are the leading features of a "fit" of hysteria, but they may be greatly varied; the struggles, especially, being so violent as to require the assistance of two or three strong men to restrain a comparatively feeble female, and to prevent her injuring herself, and sometimes, though not commonly, those around her.

Such are the outward manifestations of a fit of hysteria; but before it comes on, many patients complain of a sense of general oppression or uneasiness, with coldness or numbness of the limbs. Just previous to the accession, the characteristic hysteric "globus," or ball in the throat, is, probably felt; it seems as if a ball commenced rolling upwards in the bowels, generally from the lower left side, and as if it kept gradually ascending towards the throat, which it seems entirely to fill up, causing those sensations which induce hysteric patients so often to carry the hand to, and pull at the fore-part of the neck or throat.

It would serve no good purpose here, to follow the history of hysteria, into the minutiæ of its various phases. It might be said, that there is scarcely a disease to which the human body is liable which it may not simulate so closely as to call for all the tact and discrimination of the physician to detect the difference between the two. Continued, *incessant*, hard cough, loss of voice, delirium of various kinds, paralysis, contractions of the limbs, obstinate vomiting or constipation, nay, even pregnancy, may be enumerated amid the various simulated conditions. Neither would it be profitable, in the present work, to enter into an investigation of the way in which the hysteric tendency will modify the various diseases to which the body is liable; this can only be conducted by the medical practitioner, but it is a matter of importance, that not only parents, but that the individuals themselves should be aware of those habits, &c., which tend to develop the hysteric tendency, and, further, that the best mode of managing a hysterical individual during the fit, and, in the absence of a medical man, should be understood.

During the continuance of a fit of hysteria, little either need or should be done, beyond preventing the patient hurting herself during the struggling. Cold water dashed upon the face may be useful, or it may be poured in a stream upon the head for a few minutes at a time[*] a mustard-plaster on the lower part of the back may be applied. If there is much flatulence, a teaspoonful or two of sal-volatile in water will give it relief. It must be remembered, that in most cases of hysteria, the patient is sensible of what is going on around, and may, in the excited state of the nervous system, be painfully alive to any unguarded or unfavourable opinions uttered by those in attendance; for this reason, it is not to be recommended that, as sometimes is done, severe and violent remedies should be proposed within hearing of the patient with the view of frightening her out of the fit; such a course has had the opposite effect, causing an aggravation of the symptoms. This is a different thing from threatening severe remedies whilst the patients are comparatively well; such a plan of treatment, it is well known, has often succeeded in putting a stop to the spread of hysteria —by imitation—through schools, or such like collections of young females.

The exciting causes of hysteria are, remotely, whatever tends to exalt the influence of the nervous system. Among the moderately-fed and hard-working population in the country, hysteria is comparatively rare, but it is not unfrequent in servants who remove from the poor living of their own homes to the stimulating diet of a rich man's house. Most generally, hysteria, although in some degree the result of constitutional tendency, is connected with debility, and irregularity of the usual conditions of female health, all these being aggravated by emotions of the mind, particularly those which are connected with the affections; these, too, when in direct excitement, as well as inordinate physical exertion, which produces exhaustion of the nervous system, must be ranked as amid the most general directly originating causes of the hysterical fit itself. If, however, mental influences, either of excitement or of depression, connected with the affections, are apt to occasion hysteria, excitement of another kind has been found to be one of the best counteragents of the morbid tendency. It has been remarked, that amid states of great public agitation, such as revolutions, &c., &c., hysterical affections have decreased in frequency, and instances often occur, of women subject to frequent attacks of hysteria as long as easy circumstances permitted self-indulgent habits, losing the tendency when reverse of fortune or some other cause has forced them into active exertion. Under these circumstances, it is not to be wondered at, if marriage, with its new cares and duties and interests, often cures hysteria.

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[*] Nothing could be more effectual than the following method of bringing a patient round, who has a confirmed fit of "hysterics." The operator must stand upon a table or chair, armed with a large jug of cold water, so as to be above his patient, who is laid upon the ground, and the head *firmly fixed*. A gentle stream of water must then be allowed to drop continuously over the patient's mouth and nostrils, or over the face generally. Very few, even of the most resolute, can resist this for many minutes, and will generally be found quite docile before a second or third jugful of water has been expended upon them.

The prevention of a disease, or of the tendency to it, must ever be the most important consideration connected with it, particularly when, as in the case of hysteria, prevention is very possible. Experience testifies to the much greater frequency of hysteria, amid those classes whose mode of life is comparatively indolent and luxurious, being, in fact, that best calculated to *develop* those hysterical tendencies, of which the *foundation* is too often laid in the absurd education of the girl. This subject has been sufficiently entered into, under the head of education, and requires not further amplification here, suffice it to say, that those who would not have their daughters grow up subject to the miseries of "nervousness," should use the rational means of developing their physical health, and give them those habits of healthful exertion, both of body and mind, which, carried up into womanhood, will be the best preventives of hysteria, with its long train of exaggerated ideas and exaggerated ailments, which are too apt to render single life useless and a burden, and, if long continued, to make weak mothers and nurses, if marriage is entered into.

As regards the treatment of the hysterical tendency, it is needed to say but little in a work like this, beyond the enforcement of those general means of health which are laid down in the various articles. As regards medicinal treatment, it requires to be so varied according to each particular case, that it can only be rightly conducted under the care of a medical man, and in a disease like hysteria, long continued, and also a concomitant of artificial life, medical assistance always can and should be procured.

Lastly, although hysteria may be dependent on physical derangements, it must be considered as a disease to a considerable extent under the control of the will, and this fact should be strongly urged upon the subjects of it, even when they are sufficiently sensible, as they most generally are, during the existence of a fit of the disease. Hysteria is a disease which lives and grows on superabundant sympathy and attention, and whilst all kindness and consideration is shewn, it is wonderful how much good may be derived from a little wholesome neglect. Whilst recommending that the medical treatment of the hysteric tendency should be committed to the medical man, it is right to caution, that there is always much tendency to a confined, and, consequently, loaded state of the bowels which it is highly necessary should be obviated. The compound colocynth or compound rhubarb pills, compound decoction of aloes, infusion of senna, or clysters, will be found the best adapted aperient remedies.

ICE.—Water solidified or crystallised by the action of cold, or more correctly by the abstraction of heat, is often an agent of the greatest value in the treatment of disease, one, indeed, for which there is at times no substitute. As an external application, when cold is desirable for the purpose of reducing the heat of any particular part, such as the head, ice manifestly offers the most efficient means; it may either be permitted to dissolve in the water in which the cloths are dipped, or, better, it may be pounded and placed on the part in bladders, or in elastic water cushions.[*] As an internal remedy, in inflammatory affections of the stomach, in obstinate vomitings, and in hysteria, small fragments of ice swallowed frequently, or allowed to dissolve in the mouth, are, often, not only of the most essential service, but the remedy is one most agreeable to the feelings of the patient. Under the article "Hydrophobia," it was stated, that ice used in this way had afforded comfort, at least, to a sufferer. Of late, the action of the extreme cold produced by the admixture of pounded ice and salt, has been introduced as an external remedial application in neuralgic and other similar affections. The treatment consists in partially freezing the affected part, and is said to be successful; it is, of course, not adapted for unprofessional use. In inflammatory affections of the throat and upper part of the windpipe, either the result of cold, or of accident, such as that which so often occurs to children in consequence of their swallowing boiling water from the spout of a kettle, ice given in small frequently-repeated morsels will be found at once one of the safest, best, and most agreeable remedies. It has been found useful in loss of voice.

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[*] Ice has been applied to the spine of late, with varying success, in the treatment of epilepsy, and other nervous diseases, by means of the ice-bags of Dr Chapman. They are made of elastic material, and extend from the neck to the bottom of the spine, being so nicely constructed that there is no fear of wetting the patient's clothes, and so causing discomfort.

Refer to—*Cold.*

ICES, or ICED DRINKS,—as articles of luxury, if taken moderately, cautiously, and slowly, and when the stomach is not full of food, are not injurious to healthy persons. It was found, however, in Dr. Beaumont's experiments, that cold fluids and the like produced a reduction in the temperature of the stomach to the amount of 20° or 30° Fahr., and that the organ did not recover its proper heat for some time. As, however, the natural temperature of the stomach—about 100° Fahr.—is necessary for healthy digestion, it is evident that the custom of eating ice after dinner, or after any full meal, must materially interfere with the disposal of that meal.

Refer to—*Indigestion.*

ICELAND MOSS,—which belongs to the class of *lichens*, in some degree resembles the lichen, which grows upon the trunks and branches of trees; it is, however, more of an olive-green colour. Iceland moss is found abundantly in the country whence it derives its name, but also in Northern Europe generally, and in Britain. It has been long noted as a nutritive remedy in cases of debility, and, when prepared for food, is frequently first soaked in water, to deprive it of its bitter principle; it is a question, however, whether this proceeding does not materially interfere with the tonic properties of the remedy. Iceland moss may be prepared in a similar way to Carrageen moss.—See *Cookery.* It has been estimated that a ton of Iceland moss contains about as much nutritive matter as half a ton of wheat. The Saxon government published a report upon this subject a few years ago; in which we are informed, that six pounds, eleven ounces of lichen meal, boiled with fourteen times its quantity of water, and baked in this state with 39½ pounds of flour, produced 111½ pounds of good household bread. Without this addition, the flour would not have produced more than 78¾ pounds of bread, consequently the addition of six pounds eleven ounces of lichen meal, occasioned an increase of above thirty-two pounds of good bread. This increase, however, being owing, of course, to additional water.[*]

ICHOR—is a thin, acrid, often brown or bloody-looking discharge from wounds or ulcers.

ICTHYOSIS.—A disease in which the skin becomes covered with thick hard scales, which make it, in some degree, resemble the skin of a fish.[†] See *Skin.*

IDIOCY AND IMBECILITY—may be regarded as degrees of deficient mental manifestation, consequent upon a similar disordered or defective state of the brain. Some have defined the difference, that idiocy is congenital, and imbecility acquired; but, generally, imbecility is regarded as a minor degree of idiocy.

An idiot has been defined as one "who knows nothing, wishes nothing, and can do nothing," whose instincts scarce prompt him to seek food under the pressure of hunger; from this lowest condition of all, up to the weak mind or judgment, every shade of idiocy, weak intellect, imbecility or silliness, is met with, and all perhaps are, more or less, capable of improvement, by means of attention to the physical health, and by education of the faculties.

Till within the last few years, the general idea has been, that idiocy was incurable; the unfortunate beings, whether in the families of the rich or of the poor, were allowed to grow up, their physical wants attended to in accordance with the circumstances in which they happened to be placed, but their mental condition left without attempt at cultivation. Fortunately the error has been exposed, and institutions, both in this kingdom and on the continent, are now in successful operation, for the end of elevating these unfortunate beings from their debased position. The fact, that idiocy has been regarded too much as a thing of the mind alone, independent of physical influences, has tended in some degree to interfere with the efforts for its amelioration; attention to the physical health is a matter of paramount necessity. In the case of the cretins of Switzerland, this fact is peculiarly manifest. Enough has been said to give hope to those who number amid their families an idiot, that something may be done to ameliorate the calamity, and to induce them, as soon as the condition of an idiot child becomes manifest, to place it, or, if possible, to get it placed under judicious management at an early age. In a paper lately read by Dr. Forbes Winslow, before the Medical Society of London, he remarks with regard to the causes of idiocy, "The great mass of idiots were said to spring from an unhealthy stock, and have either been the children of idiotic parents, or of those of vitiated organizations, of scrofulous diathesis, or of intemperate habits. Three hundred idiots were ascertained to have been the children of drunkards." Dr. Winslow referred to the effects of intermarriages of near relatives, and to the influence of the mind of the mother, as well as that of the father, upon the condition of their offspring.

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[*] A decoction, which is demulcent and slightly tonic, may be made by boiling one ounce of well-washed moss in thirty ounces of water, down to twenty ounces—dose, a wine-glassful two or three times a day.

[†] This disease is hereditary, and is much commoner in some districts than is generally supposed. As it is unattended by pain or itching, it is often disregarded, or in some of its forms unnoticed, but when recognised, which it may easily be, by the characteristic scaly appearance, especially about the elbows and knees, the patient should at once be put under palliative treatment, and pay great attention to the state of the skin, otherwise some affection of the lungs, or some other internal organ is very likely to be developed.

Refer to—*Brain—Cretin, &c.*

IDIOPATHIC—is a term applied to primary diseases, in contra-distinction to "symptomatic," applied to such disorders as are evidently connected with, or originating from diseases previously existing.

IDIOSYNCRACY—is a peculiar state, either mental or physical, which renders an individual more than usually susceptible to certain influences, which do not affect the generality of persons. Thus, some cannot take the smallest dose of any mercurial without suffering from it constitutionally,—that is, being salivated,—owing, as it is expressed, to their peculiar idiosyncracy: another cannot eat the pip of an apple, a bit of almond, or indeed any of the seeds belonging to the same family—which contain prussic acid—without suffering from cutaneous eruption. These, and numerous others which might be cited, are instances of peculiar idiosyncracy, and, probably, every one is subject to such influences, in some way or other; every one, probably, has his idiosyncracy, whether he is aware of it or not. Mental idiosyncracies are not less common than physical, and for neither one or other is it possible to fix on any assignable cause. It is, however, a matter of considerable importance, when any peculiar idiosyncracy exists, more especially with regard to medicines, that whenever a medical man is consulted for the first time, he should be informed of it. As there is no traceable cause for idiosyncracy, it cannot become known to a medical adviser, except by experience respecting his patient's constitution, or by information given him. The latter should always be done at a first visit. It is a very annoying circumstance for an invalid, to find he has unwittingly taken a medicine which invariably disagrees, and equally annoying is it for a practitioner, having every reason to expect benefit as the result of his prescription, to find that his case has, perhaps, to say the least, been unrelieved, simply because he was not warned that calomel invariably caused vomiting, that colchicum produced distressing nervous depression, or that senna griped most unmercifully.

Refer to—*Diathesis.*

ILIAC PASSION.—See *Colic.*

IMITATION.—The tendency to imitate, by which all, perhaps, but especially children, are more or less influenced, is, of course, an important consideration in the education of the latter, particularly with respect to the imitation of involuntary movements or peculiarities, such as stammering, squinting, &c., &c., which young persons are very apt to acquire, if much associated with those who are the subjects of them. The power of the tendency to imitate in causing the diffusion of disease of the nervous system, such as hysteria, epilepsy, &c., is well known. Persons of susceptible nervous system, by exposure to the influence, that is, by witnessing the occurrence of the disease in another, may themselves become, involuntarily, imitators; in some cases, doubtless, quite involuntarily, without power of control, but in others only partially so. That in many cases the power of the will may prevent the manifestation or development of disease from imitation, has often been proved. The anecdote related of Boerhaave is known to most. This celebrated physician was consulted respecting the girls of a school, who, daily, one after the other, became the subjects of fits of hysteria, simply from imitation: Boerhaave had it made known that his mode of treatment must be to apply actu cautery, that is a red hot iron, to the spine not another case of hysteria occurred.

Refer to—*Hysteria.*

IMPERIAL—is made by pouring upo an ounce of cream of tartar a quart or thr pints of boiling water, flavouring with few slices of lemon, and sweetening. Whe the water cools, a crystaline sedimen which does not, however, possess t acidity of the cream of tartar, remains the bottom of the jug, and is not availab for further use. Imperial forms a cooli drink in feverish conditions of the syste sometimes, however, it produces irritati of the kidneys and pain in the back.*

IMPETIGO.—A pustular skin diseas —See *Skin.*

INCONTINENCE of URINE.—S *Urine.*

INCUBUS.—Night-Mare.—See *Sleep.*

INDIGESTION, or Dyspepsia.—Und the article *Digestion*, to which the reader referred, those conditions which are requ site for the healthy performance of this important function were pointed out. It was shewn that the due mastication of the food by the teeth, and its admixture, particularly when of a farinaceous character, with the saliva, were essential to its perfect digestion in the stomach by means of the gastric juice, and in the alimentary canal generally, by means of the various secretions which become mingled with the food mass during its progress through that tube. It was further pointed out, that not only is a healthy condition of the organs of digestion themselves requisite for the proper performance of their functions, but that the food must, in some measure at least, bear a relation to the natural constitution and intention of these organs; and, lastly, that the state of the system at large, influences considerably the exertion and progress of the digestive powers; that is, to ensure the vigorous putting forth of those powers, the system must stand in need of the supply of nutriment which the stomach is called upon to elaborate; and partially at least, and for a longer or shorter period, its efforts must be devoted, in efficient cooperation with those of the stomach, to the preparation of the nutriment for its own requirements—plastic material for its tissues, respiratory elements for its animal heat.

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* When taken in considerable quantity, it acts as a mild diuretic, and increases the flow of the urine It one of the safest diuretics for unprofessional hands.

When it is considered how much the stomach is under man's regulation and control—how dependent its management is upon his external relations, his habits, and caprices, whether these affect it directly or indirectly, it can scarce be a matter of surprise, that in the present condition of mankind, indigestion is one of the, if not the commonest of disorders. The savage, with his long periods of fasting, terminated by a gluttonous meal of perhaps indigestible, or—if cooked at all—badly-cooked food, suffers from it; the pampered, the luxurious, and the indolent, suffer from it; the over-wrought in body, and the overtaxed in mind are all liable to dyspepsia in one or other of its varied forms. It is, in fact, one of those maladies most closely and evidently connected with man in a state of disorder, or of vice; or of ignorant or wilful disregard of all the conditions of health, either by the individual sufferer himself, or by those from whom he is descended.

Many varieties of indigestion are enumerated; in the present work, it will serve every practical purpose to consider the disorder in the first place, as dependent upon causes directly connected with the digestive organs themselves; and in the second, as indirectly dependent upon causes which, although manifested through the digestive organs, are traceable to certain disordered conditions of the system in general, or of some of its organs not specially devoted to the preparation of food.

It is unquestionable that there exists great difference in the natural digestive power of different individuals; even in childhood this is evident, and when weakness is evinced thus early, it must be considered as a tendency congenital in or natural to the constitution, which will probably continue with it during life. Persons thus constituted, even as children, cannot eat the food—either of the same quality, or in the same quantity—that their stronger companions do; and if they occasionally do so, or, as too often happens, are forced to do so, sickness and vomiting frequently follow. These individuals, their whole life through, are liable to dyspepsia; with all their care they cannot always escape its visitations, even under the most favourable circumstances, and if placed in such positions, as confined work-shops, counting-houses, and the like, they are perfect martyrs to the disorder—are never happy except when their stomachs are empty, and not always then. It is very common to hear such persons say: "If I could live without eating I should be perfectly well." They are always conscious of sensations in the stomach, it is generally most comfortable when free from food, but even in its state of rest is apt to be the seat of pain, or of craving or gnawing uneasiness. After a meal has been taken, instead of the satisfied feeling of health, the stomach and bowels generally feel distended; perhaps there is tolerably acute pain; windy, and acid, very acid, eructations quickly follow; there is heartburn, perhaps headache, sometimes, though not often, vomiting, and these symptoms continue, with more or less severity, till the food has passed off the stomach in some condition or other. After this there is a state of comparative comfort. Along with these periodical dyspeptic symptoms, the tongue is at all times more or less furred, especially at the back part; on first waking in the morning this furring is notably increased, and the mouth is almost invariably dry; the bowels are costive; the hands and feet are almost always cold, and the face is very liable to be the seat of pimply eruptions. Notwithstanding all these symptoms, the appetite often remains good, too good in fact for the digestive powers.

With such persons, the slightest indiscretion or excess in diet is liable to bring on protracted fits of aggravated dyspepsia;

a little additional anxiety of mind, a little extra fatigue, is almost sure to put them wrong. But yet this species of indigestion, which belongs to the atonic or weak form of disorder, seldom tends materially to shorten existence; many pass on from year to year, throughout a tolerably long life, without being a single day quite free from its visitations. It may be that the care they are compelled to take saves them from many of the sources of disease to which those who do not know they have stomachs, and who can take any liberty with them, wilfully expose themselves; but so it is. Medicine, that is, drugs, does but little good in this form of indigestion, except in its occasional aggravation, and aperient remedies, habitually and frequently taken, materially increase the natural weakness of the digestive powers. The best remedies are, strict attention to the laws which regulate health, and to the means of invigorating the constitution. When a young person shows the tendency, the fact ought to influence the choice of the employment for life: if possible, all such as involve close confinement at desks, or work which calls for much wear and tear of brain, should be avoided; agricultural and such-like pursuits, which require regular exertion in the open air, should be chosen. A man had better earn his daily bread by the—literal—sweat of his brow—earn, as Abernethy used to say, a shilling a-day, and live upon it, than be a miserable hypochondriac, dyspeptic, valetudinarian, in the more dignified study or office. In the form of indigestion we are considering, *particular* regulation of the diet is worse than useless; and especially the confinement, once so fashionable, to two or three articles of food—to wit, mutton chops, brown bread, &c.—considered more than usually wholesome. The healthy, strong stomach craves for and requires change, still more the weak one. There are, it is true, certain general rules of diet, such as the avoidance of pastry, cheese, and such-like well known indigestible articles, to be observed; but this is different from the minute considering, nay, almost the weighing and measuring of food. Nothing is so liable to aggravate and perpetuate a tendency to dyspepsia, as the constant attention to the actions and capabilities of the digestive organs, which minute dietetic regulation involves. It is a well known fact, that organs, such as the heart, not usually under the influence of the will, may in the course of time come to be affected thereby, if the attention be frequently directed to the organ, which, as a consequence, becomes disordered in action. This is well exemplified in the act of breathing: this function, though generally performed involuntarily, may nevertheless be sensibly affected by the will, and if any one tries to regulate his breathing by his own will, it quickly becomes most fatiguing and necessarily embarrassed; so it is with the stomach, there is no surer way of disordering its functions than by keeping the mind continually attending to their operation. A dyspeptic is more likely to get quit of his complaint by casting aside restraints of diet, if he at the same time untrammels his mind, than by the constant minute dieting, and reference to tables of the digestibility of whatever he eats; within certain limits, a latitude and variety is absolutely necessary. The dyspeptic who, instead of trusting to attention to the general laws of health, trusts to limiting his food to such things as he finds, or thinks he finds, his stomach capable of digesting comfortably, will shortly get himself driven into a corner by the enemy; water-gruel and sago pudding will succeed the mutton chop and bread; and at last, the stomach, so long allowed its choice of work, refuses it altogether, and reduces its possessor to despair. The author has known such cases, and the very despair has worked its own cure; the dyspeptic has made a rush at some long-dreaded or forbidden viands; a beef steak and a tumbler of porter are perhaps taken, with some floating idea of its being a suicidal act, and, much to the surprise of the despairing invalid, they seem to take up their quarters, and to be most comfortably received by his stomach, which had nothing but acidity for the milk and farinacea. In fact, the stomach only wanted stimulus, and no sooner does it get it, than it rouses to the proper exercise of its powers. It may be that it will not continue thus after a few repetitions to respond to the stimulus so vigorously; but if reasonable judgment and moderation are exercised as regards food, if the person trusting to the unexpected power does not run into excess, the reverse of his former abstemiousness, and if he attends to the general health and strength, especially, if possible, by means of change of air and scene, he may to a great degree get the better of his former miserable condition. The above case is put to demonstrate that ultra-dietetic regulation is not only useless, but worse than useless in cases of atonic dyspepsia generally, and a large proportion of the cases of the disorder met with in medical practice are of this class; not, it is true, of hereditary or congenital origin, or of life-long continuance, but still, long-continued cases, the effects of the various debilitating and depressing influences which affect the citizens of large towns; the deficient supply of fresh air, and the contamination of this vital element by noxious emanations, the contamination of water, the close confinement and anxiety of business, and the hurried meal, all tend to produce the form of atonic dyspepsia. Such cases may perhaps be relieved temporarily by medicine and regulation; but they have but little hope of cure, without removal from the causes which originated them; they are the cases which confer celebrity upon watering-places, and would confer celebrity on any place which happened to become their resort, provided it offered plenty of fresh pure air, and relaxation from care and anxiety. It matters but little—water-cure, *in moderation*, grape-cure, sulphurous or chalybeate springs, sea-bathing, or shampooing, even homœopathy, will suffice—the atonic dyspeptic will get well under the influence of the natural stimuli of fresh air and cheerful exercise.

Persons who suffer from the above form of dyspepsia, if they have been accustomed to the use of alcoholic stimuli, cannot leave them off, at least when following out their usual mode of life, without risk of having their ailments much aggravated,and suffering much both from mental and physical depression. They must, moreover, carefully avoid whatever tends to exhaust the powers of the system, long fasting, long fatiguing walks, especially before breakfast, active exertion or severe study soon after a meal, are all injurious to them. Their digestive organs are so comparatively feeble, that for the first stages of their operation they call upon the whole nervous energies of the system for assistance, and if these energies are called off for other purposes, the function of digestion necessarily suffers. It matters little whether the nervous exhaustion or derivation takes place immediately before or after the meal, the effect is the same. Persons who suffer from this form of dyspepsia, almost invariably experience languor after a full meal, in consequence of the nervous power going to the stomach instead of to the muscular system.

The next form of indigestion to be considered, partakes more of strength than weakness; it occurs in persons of naturally good constitutional powers and digestion. It may be brought on by indolence and close confinement, but is more generally induced by excess in eating and drinking, and is, in most cases, connected with more or less biliary disorder. The appetite fails, the tongue is much furred, there is often sickness and vomiting of bile, the bowels are rather irregular than confined, the urine is high coloured and deposits red or pink sediments, there is heart-burn and acidity, and generally headache, often pain between the shoulders extending to the back of the head; the condition, in fact, is in great degree similar to that which precedes an attack of British or bilious cholera, and often does end in a "sick headache," or "bilious attack." In this form of dyspepsia, abstinence and exercise may effect a cure, but it is much facilitated by proper medicine; it is in such cases, that the calomel, or blue pill and black draught method are most useful, *if properly employed;* the system at large, and the whole of the digestive organs, are oppressed and over-loaded, and one or more doses of the above medicines clear them in a way that nothing else will, bringing away large quantities of acrid, dark bile, with immediate relief. After this remedy has been repeated, the bowels ought to be kept lax, by means of the blue pill and compound rhubarb, or blue pill and compound colocynth pill, at bed-time. If the tongue remains furred, and the appetite deficient, two or three doses during the day of effervescing mixture, with the addition of a tea-spoonful of tincture of calumba, or of tincture of gentian, to each, will be of service; or a mixture composed of a drachm of carbonate of potassa, half an ounce of nitrous ether, and twelve ounces of infusion of calumba or of gentian may be used, a wine-glassful being taken twice a-day. In this form of dyspepsia also, the infusion of dandelion, either alone or combined with one of the bitters, is very serviceable. This form of dyspepsia does not call for change of air and scene as the first-mentioned does, although unquestionably—especially if the attack has been a severe one—these remedies are of service, if taken advantage of after the organs have been relieved, and the functions regulated by medical treatment.

A very necessary caution is requisite with respect to the management of this form of indigestion. The immediate and striking relief which follows the clearance of the liver and digestive organs, by the use of the mercurial and purgative, is very apt to induce people to trust to this means of cure, or rather of relief, and to disregard all those methods of self-management and self-restraint which would keep them well. There is, perhaps, no substitute, nothing which will so completely, at the outset of the treatment of a case of this form of dyspepsia, clear away the causes of its symptoms, and leave a good foundation for after treatment and management; but to trust to this mode of relief alone, and from time to time to persevere in those habits of self-indulgence and of excess in which the disorder originates, is most dangerous, and must, sooner or later, lay the foundation of disease, or at least substitute for the dyspepsia of a strong stomach that of a weak one, and with it of a weak system generally.

The form of dyspepsia of which we now treat is, in so great a majority of instances, the result of excess in eating or *drinking*, and of inattention to proper exercise, &c., rather than of any real weakness of digestive function, that there are few who suffer from it, who might not enjoy, under proper restriction, the best possible health.

The two forms of indigestion above treated of, that which results from weakness, and that which does not, may be taken as the types of dyspeptic ailments generally, which all incline, more or less, to one or other of these divisions: to enter into the varied phases which cases of indigestion assume, and to detail the varied symptoms they present, would demand a volume of itself. Although, therefore, in this article, less is said than in most others respecting application to a medical man, it is not because it is not highly desirable in all cases of continued or aggravated indigestion; there are often so many anomalous symptoms, and the disorder is frequently dependent upon so many causes which skill and experience only can detect, that it is the safer and wiser plan to take advantage of these guides whenever procurable.

One of the most general features of dyspeptic disorder is the mental depression, often amounting to "Hypochondriasis," or even "Monomania," which accompanies it. In sufferers from the atonic and continued condition, this is more apt to take the form of constant dwelling upon symptoms and feelings, and magnifying their importance; in fact, such persons whole time and attention seems to be occupied in registering the various sensations they experience in the course of the day; and, if attended by a medical man, they do not fail—if allowed—to trace the turning and winding of every pain and ache, how much and what they ate for the last week, and so on. In the form of indigestion less connected with constitution, the spirits are apt to be more regularly depressed, and more decidedly hypochondriacal, or even, in some, suicidal emotions are felt.*

Headache, which is so frequent an accompaniment of indigestion, arises from very various and very opposite causes. The most general headache, is a dull persistent pain over the eyes, which comes on from half an hour to two hours after food, and seems to be connected, so to speak, with a negative or inactive condition of the stomach, on which the food lies with but little change. This kind of dyspeptic headache is accompanied with dulness of the mental powers, and incapability of their exertion. It is best relieved by whatever stimulates the stomach: a cup of hot tea, a glass of wine, an effervescing draught, and often a spoonful of vinegar will relieve it, the acid seeming to alter the sensation of the nerves, whatever that may be on which the symptom depends, even acid generated in the stomach itself will cause its disappearance, and persons who suffer from this headache, are often aware that it will probably subside as soon as heart-burn begins. The same description of headache may be produced in persons of weak stomach by a dose of soda or magnesia, or by any article of food which does not stimulate sufficiently the stomach and its nerves. A headache, exactly the reverse of the foregoing, is caused by the presence of superabundant acid, and is, of course, relieved by the alkaline remedies—carbonate of ammonia, soda, or potass, which neutralizes the acid. Persons liable to indigestion often suffer also from various forms of nervous headache, from giddiness, dimness of sight, &c. The chest comes in for its share of disorder when indigestion exists. A peculiar irritable "stomach" cough is not unusual; palpitation of the heart is almost a constant attendant upon the condition, and shortness of breathing often results from pressure exerted upon the chest by the stomach distended with gas. Indeed, there is scarcely a symptom which may not, some time or other, be met with, traceable to disorder of the digestive powers. The sympathetic connections of the stomach, and its office as preparer of the nutriment which is to supply the body, necessarily make its derelictions felt throughout the system; and gout, gravel, rheumatism, cutaneous affections, scrofula, and indeed most other disorders, may at times be distinctly traced back to faulty digestion. Moreover, the abundant sympathetic connections of the stomach, make it liable to be affected by the state of, as well as to affect, distant organs; and it not unfrequently happens, that obstinate cases of indigestion, turn out to be not so much the consequence of disorder in the stomach itself, as of its sympathy with disease going on elsewhere—in the heart, the kidneys, or womb; when, therefore, indigestion, spite of all proper regulation and treatment, continues to harass a patient, something of a deeper-seated and graver character must, at least, be watched for.

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* The above form of dyspepsia is very often accompanied by a peculiar condition of the urine, (indicating the state of the system.) which is easily recognisable by an intelligent medical man, and admits of speedy relief by means of medicine.

Nervous pain at the stomach, also called gastrodynia, is one of the most painful forms of indigestion, sometimes coming on when the stomach is empty, sometimes after eating. The disorder ought to be treated by a medical man. If there is much tenderness, a few leeches, followed by blister or mustard-plaster, may be applied to the pit of the stomach. Bismuth, in five-grain doses, twice or thrice a-day, will sometimes relieve; the author has found the oxyde of silver, in one-third of a grain doses, as recommended by Sir James Eyre, of considerable service in some cases. In this affection of the stomach, as well as in other forms of dyspepsia, the rhubarb and magnesia mixture, with or without the addition of sal volatile, is often very useful. When the pain is present, and very acute, a cup of hot water, swallowed as hot as possible, is often of service, with the addition, if there is acid on the stomach, of fifteen or twenty grains of carbonate of soda, or as a possible addition, four or five drops of laudanum[*] When the pain amounts to spasm, it must be dealt with as recommended in the article on the subject.

The principal features connected with indigestion have now been enumerated; a short general recapitulation of the subject will probably make it more clear to the mind of the unprofessional reader. The first form of indigestion noticed, was that dependent on weakness: in this it may be taken as an axiom, that it is better to bring the stomach up to its reasonable work, than to reduce the work to suit the enfeebled powers of the stomach. In doing the former, the whole system must be attended to and strengthened, and the stomach made to participate in and to *give its proper aid to the strengthening process;* in attempting to do the latter, not only do the powers of the stomach become less and less, shrink away as it were from their work, but the whole system partakes of the enfeeblement.

In the second form of indigestion adverted to, that accompanied by strength, or at least not dependent on weakness, it was shown that medicines and abstemiousness offered the proper means of relief. Lastly, the varied forms, symptoms, and connections of dyspepsia were pointed out, to show how often there must be difficulty in determining the treatment and true nature of the case, and to impress the unprofessional reader, that when suffering from anything more than transient indigestion—unless indeed his be one of the cases of constitutionally feeble digestion—the safest, best, and perhaps most economical plan, will be to put himself under proper medical care. Above all things, those who suffer from the form of indigestion dependent on weakness must beware of purgatives; nothing so completely debilitates whatever digestive powers they may possess. The bowels perhaps, probably, may be regularly costive, but they must be, as a rule, regulated by the clyster.

Refer to—*Alimentary Canal—Digestion—Drinks—Food—Exercise—Meals—Dinner, &c.*

NOTE.—The reader is requested to refer to the above, and other articles bearing upon the subject of digestion and indigestion generally, as it has been thought superfluous to repeat information once given.

INFANTS.—See *Children.*

INFECTION.—See *Contagion—Disinfectants, &c.*

INFLAMMATION—is an action set up in the living body, which is characterized by redness and swelling of the portion affected by heat and pain. When these phenomena occur on a visible part, they are recognizable by all, but when they—that is inflammation—occur internally, their presence must be judged of by concomitant symptoms. Few diseases are unaccompanied by inflammation in a greater or less degree in some part of their course, and many seem to owe their characters and influence chiefly to its presence. Nevertheless, inflammation is not solely a process of disease tending to disease, it must accompany the reparative action of the wound or fracture; in other words, the means of reparation are the consequences of inflammation, one of its "terminations." When inflammation of a part occurs, the chief effect is, determination of blood to it, the stream being quickened in some parts, and in others impeded, whence arise the characteristic redness and swelling, heat and pain, the latter, especially, being the result of pressure on the nerves by the distended tissues. After the process has continued for some time, it may subside, the parts resuming the same appearance and action which they possessed before it arose. This *termination* of inflammation is named "Resolution;" it is of course the most desirable of all, and to bring it about, the efforts of the medical man are directed. In the event of inflammation not terminating by "resolution," it may give rise to effusion of serum, that is, of the watery portion of the blood; this effect is familiar in the case of scald or blister; internally, it happens in pleurisy, in water on the brain, &c.

This effect of inflammation is, undoubtedly in many instances productive of bad consequences—see *Pleurisy*—present article. A third and most important termination of inflammation is the effusion of what is called "lymph," that is of an adhesive—at first liquid, afterwards solid—matter, which becomes a permanent medium of connexion between two parts—See *Adhesion*. As, however, this exudation of adhesive matter takes place as a necessary consequence of inflammation, in many cases irrespective of circumstances, it must happen, that it is sometimes as much a source of injury, as it is at others of benefit; thus, in the case of inflammation within the abdomen, it may glue the bowels together; in the chest, it may fix the lungs to the side, or the heart to its containing bag. Nevertheless, even internally, it is often beneficial; it may seal parts together in such a way as to prevent the escape of matters, as for instance, from the bowels into the abdomen, which must otherwise have proved fatal.

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[*] The same quantity of Chlorodyne may be substituted for the Laudanum, with the best effect—See Chlorodyne—Appendix. In some forms of indigestion, especially that which is often such a distressing accompaniment of consumption, benefit may be derived, for a time, at all events, by the use of Pepsine, either as five grains of the powder, three times a-day, between thin slices of bread and butter, or as Pepsine Wine, in the dose of from a tea spoonful to a table-spoonful, three times a day.

But inflammation may terminate in none of the ways above-mentioned; it may go on to the formation of pus or matter, as in the case of abscess.—See *Abscess*. Or ulceration may take place—see *Ulcer*—or, lastly, the vitality of the inflamed part being completely destroyed, mortification occurs, and the tissues dissolve or break down into one putrefying mass. These various effects of inflammation, are in some degree dependent upon the violence of the action in the first instance, but they are modified by the nature of the affected tissue. What has now been said, however, will demonstrate how closely this important process is connected with the whole science and practice of medicine, and how greatly all treatment must have reference to it; and, especially, to induce its termination in "resolution," which leaves the affected part uninjured in structure and function.

The means used to procure resolution of inflammation are bleeding, either general from the arm, or local by means of leeches, cupping, &c., which relieve the overloaded and obstructed vessels; further, fomentations and poultices, that is, heat and moisture, which relax, and also relieve from the accumulation of blood by producing perspiration; also medicines, such as diuretics, diaphoretics, purgatives, &c. In some cases, when inflammation is seated on the surface, it is treated successfully by the direct application of astringents to the parts. Thus, inflammation of the covering membrane of the eye, is cured by an astringent wash, along with the more directly medical treatment; the diet in most cases of active inflammation requires great reduction.

In addition to the local symptoms of inflammation, there are those of the constitution, which always accompany the process, except in its most trivial forms. These are fever, inflammatory, hectic, or typhoid, according to the nature and extent of the local affection, the part involved, or the constitution of the patient. The first occurs, generally, in the active stage of inflammation; the second, should matter be formed; the third, if mortification or sloughing takes place. When inflammation in some of its forms is going on within the body, the blood acquires the peculiar property of becoming buffed, after it has been drawn from a vein, that is, instead of the clot formed by coagulation presenting a red surface, it is covered on the top by a tough yellow coat of greater or less thickness.

Although redness, swelling, heat and pain, when combined, certainly indicate inflammation, they do not do this separately; the redness of blushing is no inflammation, and pain may result from spasm, swelling may be caused by simple effusion; heat by exercise. The above characteristic symptoms, moreover, are greatly modified by the site and nature of the inflamed part; the severity of the pain, especially, being by no means commensurate with the importance of the affected organ. Some parts, such as bone, which in their healthy state possess but slight sensation, become when inflamed most acutely sensitive. Further, in some respects, pain in inflammation is a deceitful guide; sometimes it is altogether absent when its presence might have been fully anticipated; and again, if felt, it is not perhaps at the affected part, but at some distance from it. As a general rule, inflammatory pain is increased by pressure, and is in this way distinguished from the pain of spasm. In some forms of inflammation, such as those of gout, rheumatism, &c., what is called "Metastasis" occurs, that is, the action seems to be transferred from one portion of the body to another.—See *Rheumatism*. This tendency of inflammation may of course be exerted either for good or evil. Its good the physician tries to imitate, when, by blisters and other means—see *Counter-Irritation*—*Derivative*—he endeavours to produce inflammation artificially upon the skin, with the view of drawing it off from some more directly vital, and less accessible organ. The causes of inflammation are very numerous; whatever irritates locally, as familiarly exampled by dust in the eye, will cause it; but it may also originate from causes affecting the constitution, such as cold, or it may arise in the course of constitutional diseases, such as fever.

Such are the principal general points connected with the subject of inflammation, with which it is expedient unprofessional readers should be acquainted; a clear understanding of them will tend greatly to assist the formation of rational and common sense ideas respecting the nature and progress of disease, and will throw light upon some, at least, of the whys and wherefores of its rational treatment.

The inflammations which affect the body may be classed as external and internal.

The external inflammatory affections, properly so called, are the various skin diseases, particularly erysipelas, which is, essentially, inflammation of the skin; inflammation of the eye, ear, throat, &c. The internal inflammatory affections are those of the brain, of the chest and lungs, including laryngitis and croup, which affect the windpipe; and bronchitis, which is situated in the air tubes; also pneumonia and pleurisy, and carditis, or inflammation of the heart.

Of the abdomen, the inflammations are those of the stomach and bowels generally, and of the other viscera, such as the liver and kidneys, and womb. In addition to the above, there are inflammations of the blood vessels, especially of the veins, inflammation affecting the bones, joints, &c. All these are entered into sufficiently under their separate articles, with exception of inflammation of the lungs—pneumonia and pleurisy—and inflammation of the bowels or alimentary canal: these are detailed below.

The important organs the lungs—see *Lungs*—are liable to three distinct forms of inflammation—bronchitis, or inflammation of the bronchi, or air tubes; pneumonia, or inflammation of the tissue or substance of the lungs; and pleurisy, or inflammation of the pleural, or covering membrane of the lungs.—See *Chest*. The subject of bronchitis has been fully entered into in its proper place. Although three distinct inflammations of the lungs are mentioned, it is not to be supposed, that they are always distinctly separated practically; frequently they are, but they often coëxist. Bronchitis merges into pneumonia, and always accompanies the latter, which, on the other hand, is often connected with pleurisy.

As might be expected, the inflammatory affections of the lungs have certain symptoms in common. They are all characterized by general symptoms of fever, heat, thirst, quick pulse, &c., by more or less embarrassment of breathing, and by tendency to cough. In pneumonia and pleurisy, there is generally pain in the side, or under the breast, more or less severe, but sometimes this symptom is entirely absent. The distinctive characters of bronchitis have been pointed out in the article on the subject. Those of pneumonia are a greater amount of fever, and especially heat of skin, than in the other forms; generally the pain is less acute, but there is more cough than in pleurisy. It is, however, in the expectoration of pneumonia that one marked distinction is found. Shortly after the attack commences, the mucus coughed up, becomes of a remarkably glairy adhesive character[*] at first uncoloured, but soon acquiring a yellow tinge, and at length is coloured throughout by blood, which gives it a peculiar rust, or reddish brown hue. When, then, in an inflammatory chest affection, the expectoration is characterised as above, and goes through these changes, it may be considered that pneumonia is present. In pleurisy, the pain in the side is frequently severe, of a peculiar sharp, cutting character, which is aggravated at every respiration, and prevents the proper expansion of the chest; it is, too, aggravated by all attempts to lie on the affected side, and by the cough, which is short and dry.

An attack of pneumonia, or of inflammation of the substance of the lungs, tends to terminate either in the return of the lung to its ordinary healthy condition, in its becoming solidified, or, as medical men call it, "hepatized," that is, converted into a mass as solid as a piece of liver, or in the formation of abscess in the lung. In either of the latter cases, the result is, of course, impairment of the functions of a vital organ, which is felt by the whole constitution, and which occasions more or less distress, locally, according to the amount of lung damaged. The condition, moreover, often lays the foundation of future disease. More rarely pneumonia terminates in mortification. An attack of pleurisy tends to terminate in return to health; in the effusion of water or of matter into the cavity of the chest, and in the formation of adhesions between the smooth surfaces of the lungs and those of the chest with which they lie in contact. If the water or matter formed in the chest is of large amount, as it must find room somewhere, it compresses the spongy substance of the lung to so great a degree that no air can possibly enter it, and thus, as may be imagined, causes great distress in breathing. When this occurs, the sharp cutting pain, which was partly the result of the inflamed surfaces rubbing against each other, subsides, for the surfaces are now separated, and the patient, instead of lying on the back, or on the other side, now inclines to the one affected, as, by doing so, he throws the weight of the fluid off the sound lung.

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[*] It is so tenacious as to adhere to the bottom of the vessel in which it may be.

The inflammatory affections of the lungs occur, of course, of every degree of severity, and frequently prove fatal. They are generally the result of cold, but also at times arise from violence or other causes. They are, moreover, diseases which often occur suddenly, and with much severity, in situations at a distance from medical aid. When such is the case, much assistance may be given by the well directed efforts of the unprofessional. Confinement to bed, low diet, a plentiful supply of diluent drinks to quench the urgent thirst, and hot poultices of bran or other material to the affected side, are the first necessary measures. If the bowels are confined, they should be acted upon moderately, but no good can be derived by strong purging in the diseases in question, and by it the strength of the patient will only be unnecessarily depressed. The propriety of bleeding largely from the arm in inflammations of the lungs is becoming much questioned, and, except by medical sanction, or in the case of an extremely plethoric individual, the operation will be better let alone in unprofessional hands, even if it can be performed. The medicines chiefly to be relied upon are tartar emetic, and calomel, and opium. In pneumonia, the former should be given in from fourth to eighth of a grain doses, every three or four hours; and of the latter, a pill containing a grain and half of calomel and a quarter of a grain of opium should be given every six hours, and continued till either the disease is removed, or till the gums become sore. The antimony may be gone on with till the disease is subdued, unless it acts violently upon the bowels, or unless there is much depression. Should the latter occur, the treatment with ammonia as recommended in article "Bronchitis," ought to be adopted, and the strength supported by nourishing broths, beef-tea, &c. In some cases of inflammation of the lungs, when the pain is severe and the symptoms urgent, leeches, from six to twelve, according to the strength of the patient, may be applied, or cupping practised; but in most cases the hot bran poultice, assiduously used, will obviate the necessity. The mistake of applying moderate sized blisters in the early stages of inflammation is frequently committed, it should never be done; in the latter stages of the attack, however, they are useful. In pleurisy, the chief modification of the above treatment ought to be, the substitution, for the tartar emetic, of moderate doses of some saline, such as nitrate of potash, in ten grain doses, every four or five hours, and the calomel and opium may be given at rather shorter intervals. It is seldom that an attack of inflammation of the lungs will run its entire course without being visited by a medical man; but should it of *necessity* do so, under unprofessional care, the best procedure will be, when the disease subsides, to do as little as possible in the way of medicine, beyond attending to the action of the bowels, and, if requisite, of the kidneys by some safe diuretic; if cough is troublesome, it may be allayed by a few drops of laudanum, or by paregoric, in some demulcent, such as barley-water. The patient should be nursed gently and cautiously into health.—See *Bronchitis.*

Inflammation of the bowels, or alimentary canal, may affect any portion of it—the stomach, the large and small bowels, &c.; it may attack its covering membrane, the "peritoneum," or its lining mucous membrane. Inflammation of the peritoneal covering of the bowels (Peritonitis)—see *Alimentary Canal*—is one of the most formidable and often one of the most painful of the acute diseases; it may be confined to a small portion of the abdomen—see *Abdomen*—or be spread over, not only the peritoneum, which covers the alimentary canal, but that which covers the other contents of the cavity, such as the liver, hence medical men distinguish general and partial peritonitis, the latter being named according to the part affected.

The accession of peritonitis, or inflammation of the covering membrane of the bowels, like that of other inflammatory diseases, is attended with the usual symptoms of fever, languor, depression, shivering, and is followed by heat, thirst, and quick pulse. Either simultaneous with these symptoms, or shortly after, there is usually intense cutting or burning pain in the abdomen, general, or confined to one spot, according to circumstances. *This pain is much increased by pressure*, so much so, indeed, that even the weight of the bed-clothes cannot be borne, and the patient lies on the back with the knees drawn up—an attitude very characteristic of this disease—in order to keep off the weight of the clothes. At this time, the pulse, which is very quick, is usually of a peculiar hard, wiry character. The symptoms of peritoneal inflammation of the bowels are usually so well marked as to be distinguishable even by an unprofessional person; when they do occur, especially under circumstances to be hereafter pointed out, as likely to occasion them, it need scarcely be said here, that a medical man should be called with the shortest possible delay. The disease is most serious and dangerous, often very rapid in its course, and cannot too soon be submitted to the active treatment which skill and experience alone can venture upon. In the meanwhile, the provisional remedies to be adopted must be, in some degree, regulated by circumstances. If many hours *must* elapse before medical assistance can be obtained, and if the affected person is of strong full habit, bleeding from the arm, if there is any one competent to perform it — See *Blood* — ought to be resorted to, to the extent of sixteen or twenty ounces, and either with this or without it, leeches may be freely applied over the seat of the pain; a warm bath for half-an-hour will be useful, and hot fomentation assiduously used for a long time will give much relief, being substituted for the hot bran, the weight of which, probably, could not be borne, unless made very light, and then fomentation is as good. If the bowels are confined, they should be gently relaxed by means of castor-oil, or by Epsom salts, a tea-spoonful in half-a-pint of warm water or gruel every two hours, till the effect is produced. Warm clysters, repeated from time to time, not only keep the bowels clear, but act as an internal fomentation; they should not be large, and if the pain is severe, may contain twenty to thirty drops of laudanum. The best medicine will be calomel, combined with opium, six grains of the former combined with one—or if the pain is very violent, two—of the latter, this being given, made into a pill, every six hours, until the doctor arrives. The diet must of course be reduced, and nothing but diluents, such as thin gruel, barley, and toast water, allowed. In following out the above directions, an unprofessional person, at a distance from medical aid, would be doing the most possible to keep the disease in check; the means may, of course, require varying in some degree, but in this, as, indeed, in all such matters, something must be left to the judgment of an intelligent person.

Whenever, with the symptoms enumerated as characteristic of peritoneal inflammation, there is tenderness on pressure, inflammation may be strongly suspected, sufficiently so, at least, should more active measures not be adopted, to forbid all administration of stimulants, such as is had recourse to in colic and spasmodic pain. Indeed, should the attack turn out to be the latter, all the remedies recommended for peritonitis, except the blood-letting, would be serviceable, especially the warm bath and fomentation. The causes of inflammation of the bowels are chiefly cold, the abuse of stimuli, or of strong purgative medicines, constipation, a loaded state of the alimentary canal, and child-birth. The most severe and rapidly fatal case of inflammation of the peritoneal covering of the bowels, the author ever witnessed, was traceable solely to the individual rising from a warm bed, and standing for some time on a stone floor bare-foot. For information respecting inflammation after child-birth, the reader is referred to the article on that subject. It is, however, right in this place to warn that, under this circumstance, a spurious or imitative inflammation is apt to occur, in which bleeding will do the greatest possible mischief; in such cases, therefore, its employment will be most prudently left to the judgment of the medical man. Inflammation of the lining or mucous membrane of the bowels, is generally associated with diarrhœa or dysenteric affection, and to these articles the reader is referred.

Refer to—*Abdomen—Alimentary Canal—Liver*. See *Appendix*.

INFLUENZA.—This disease was cited under the article *Epidemic*, as the best specimen of an epidemic disease. It is a peculiar feverish attack, accompanied with catarrhal affection of the air-tubes of the lungs, and great prostration of strength. It is not uncommon to call various forms of cold and catarrh, influenza; but the true influenza is a very distinct disease, and seldom occurs but as an epidemic, attacking large numbers at once.

The symptoms of influenza are those of general fever; coming on suddenly, there is shivering, loss of appetite, perhaps vomiting, heat and thirst, with cough, frontal headache, and generally great depression and languor. The feverish symptoms may last from one day to ten, but their general duration is from three to five, or seven days, the cough usually remaining a variable time, after the acute symptoms are gone, according to exposure and circumstances, such as a predisposition to cough, &c.

To the strong and healthy, influenza is but a trifling disease; it certainly prostrates even them for a few days* and leaves them weak, but it is in almost all cases perfectly devoid of danger—*with ordinary care*—and requires little or no medicine. A few days in bed, according to the severity of the case, with low diet, a gentle aperient, and diluents, the feet in hot water, being all that is required. If the catarrhal symptoms are severe, treatment similar to what is recommended for catarrh or cold may be had recourse to.

To the weakly and the aged, influenza is, on the other hand, a comparatively fatal

* Perhaps the most striking distinctive feature about true influenza is the remarkable prostration, and dejection of spirits which invariably accompany it.

disease, and from the almost universal nature of its attack, carries off more, perhaps, of these classes, than many more apparently severe and more dreaded disorders. The attack of influenza in the description of persons above mentioned, should be the signal for medical attendance[*] Lowering means especially, must not be resorted to; confinement to bed, and the use of diaphoretic remedies, as recommended under articles *Cold* and *Catarrh*, will be required; broth, strong or weak, must be allowed, according to circumstances, if the strength is deficient, wine may be requisite, and stimulant expectorant medicines, especially in the aged, if the expectoration is abundant, viscid, and difficult to be got up. In such cases, the following will be found useful: Take of carbonate of ammonia thirty to forty grains; tincture of squill one drachm; wine of ipecacuanha forty drops; water or camphor julep, sufficient to make an eight-ounce mixture, of which two table-spoonfuls, or one-eighth, may be given every few hours. If the cough is very irritating and troublesome, two drachms of paregoric may be added to the above, but the opium rather tends to check the free expectoration, which is so desirable. Demulcent drinks, such as barley-water, should not be neglected, and a mustard-plaster, or blister, to the chest will do good. In severe forms of the disease, with difficult breathing, if the strength is much reduced and the appetite bad, two doses of decoction of bark may be given during the day.

Persons who generally suffer from delicacy of chest, should beware of allowing the effects of influenza to hang about them; the debility and cough are very apt, if predisposition exists, to lay the foundation of consumption. The strong and healthy may trust to the domestic management of influenza, the weak and aged ought to have proper medical advice, if it is within reach.

The history of the various epidemics of influenza which have visited Europe, and, indeed, the world, at intervals, is a subject of much interest. It has been remarked, that the invasion of the epidemic has been preceded by dense, dark, and in some places it is said, offensive fogs.

During the last epidemic of influenza, it was remarked that the barometer was much and unusually affected.

Refer to—*Cold — Catarrh — Diaphoretics*, *&c.*

INFUSION—is the submission of substances to the action of water, hot or cold, for the purpose of extracting from them certain portions soluble in the fluid. The most familiar instance of an infusion is common tea. For the purpose of infusion, a jug, of the form of fig. A, is the most useful, with both cover, and spout with strainer; but, of course, a common jug, with a saucer or plate placed on the top of it, or an earthenware tea-pot, will make, and generally does, a good substitute. The object of an infusion is to extract volatile and other substances, which would either be dissipated or injured by exposure to higher heat, such as decoction or boiling; indeed, some infusions, such as that from senna, &c.—as noticed in their articles—are better made without heat at all.

A

The commonest method of forming a hot infusion is, to pour the water boiling upon the substance, cover, and allow the whole to stand near the fire for some time before it is permitted to become cold. If the substance to be infused is thick or tenacious, it ought, of course, either to be cut up, or well bruised before being submitted to the action of water. The chief inconvenience connected with infusions, is their great tendency to spoil; some, such as calumba and dandelion, becoming unfit for use in twenty-four hours in summer. It is said that if the infusion be poured boiling hot into a bottle, filled up to the top, and the bottle immediately well corked, it will keep good a long time. Concentrated infusions are now made by chemists, but many of them contain so much spirit, that they are almost tinctures, and in some cases, therefore, are inadmissible; otherwise they are good preparations. The most useful infusions are:

Infusion of Bark,
,, Broom,
,, Calumba,
,, Chamomile,
,, Dandelion,
,, Hop,
,, Gentian,
,, Linseed,

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[*] It is apt, especially when neglected, to run on to bronchitis, or to inflammation of the lungs.

Infusion of Rhubarb,
„ Rose-leaf,
„ Senna.

IALATION—is the "inspiration,"
awing in, of vapour—sometimes of
r—into the lungs, as a form of medi-
atment for the cure of disease. Inha-
was much more regarded some years
han it is at present; perhaps, like
ther things, the reaction from extra-
t praise has gone too far the other
At present, inhalation is chiefly
of in connection with ether and chlo-
. Independent of these, the agents
have been chiefly administered by
tion are, vapour from water, either
or medicated, chlorine gas, iodine
, fumes from mercurials, &c.

steam from water may often be used
fe domestic inhalation, in cases which
e the local application of heat and
re; indeed, in sore throat, steaming
commonly had recourse to. It may
e employed with advantage in cases
the breathing is difficult, with tena-
xpectoration, especially in old people.
st affections, such as consumption,
pasmodic cough, the vapour of boil-
ater, into which has been put a few
of sulphuric or chloric ether, or ten
lozen drops of laudanum, will fre-
y afford much temporary relief.
ated inhalations, such as those from
e, if used at all, must be so under
medical superintendence. It is pro-
that the slow, imperceptible, but
nal breathing of an atmosphere im-
ated with such medicinal agents as
e, iodine, &c. &c., is more likely to be
ice than their temporary use in more
ful doses. It has been observed in
actories in which a chlorine atmos-
prevails, in consequence of the opera-
such as bleaching, carried on within
that men who have entered the works
eak chests or consumptive tendencies,
in the course of time, become much
ved in health. It is, too, not impro-
that part of the benefit, at least,
d from sea-side residence, may be
o the constant imperceptible inhala-
f chlorine salts, and other vaporized
nces. If, however, the constant inha-
of some agents be beneficial, it is still
certain that the presence of others in
mosphere breathed is most inimical to
. This subject, however, is suffi-
y entered into in other articles, such
, *Atmosphere*, *Ventilation*, *&c.*

ious methods of inhaling steam are
yed: simply holding the mouth over
of hot water will answer, but if the throat be the part affected, the vapour is most directly conducted to it by means of a tube of some kind. A filtering funnel, or tundish, inverted over the vessel from which the steam issues, will do very well. Where vapour is wished to be inhaled by persons confined to bed, or very weak, a good method is to place a quantity of hot bran in a suitable vessel, pour some boiling water upon it, and place it under a light cloth, which also covers the face of the patient. If desired, various forms of inhalers can be procured at the instrument makers.*

Refer to—*Chloroform*—*Ether*, *&c.*

INJECTION.—See *Clyster*.

INOCULATION—is the introduction of a poison into the system by means of a wound. Any poison which will thus affect the part in which it is placed, or the system generally, may be said to be introduced by inoculation. The term is most generally used with reference to the poison of small pox, to the article on which the reader is referred.

Refer to—*Poisons*.

INQUEST.—The inquiry into the cause of death from violence, or in an unusual, or in an unexpected manner, ought to be one of those safeguards to human life in this country, which every one should uphold and promote, instead of, as is too often done, throwing impediments in the way of the operation of the law. For this purpose, in cases of unexpected death—See *Persons found Dead*—those who chance first to be at the scene, should note carefully whatever may be of service in the inquiry of the coroner and jury. Probably, never at any time was the authority and surveillance of the coroner's court more required than it is at present, when the crime of secret poisoning seems so fearfully on the increase. It is a very common opinion, that inquests are only called for when there is a *strong* suspicion of crime; if they are to be confined to such cases, they might almost be superseded entirely; their great use is to investigate *unexpected* death, whether suspicion exists or not. In this way only can they be an effectual and dreaded check upon crime. Moreover, the full efficiency of the coroner's office is very greatly impaired, by the anomalous proceeding, of generally placing what ought to be a medical inquiry in the hands of a legal functionary. The law of inquest is, or ought to be, in some degree, at least, a fixed principle or rule of action; the medical questions which are involved in the majority of inquests, are so varied, that they cannot possibly be fully judged of by a non-medical inquirer. Medical men alone are, or ought to be, com-

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ery elegant, and at the same time, useful glass inhalers, fitted up in portable leather cases, can now be
"Portable Oxygen Inhalers," for the inhalation of Oxygen, can now also be had, along with materials
ready production of the gas, and may be used by those to whom such a method of treatment has been
mended. It is thought, however, to be doubtful, as yet, whether any real benefit has resulted from it.

petent to seize hold of and follow up many classes of inquiry that must and do fail to attract the notice of those whose knowledge —if possessed at all—is necessarily limited, on subjects of medical science.*

Refer to—*Death—Drowning—Hanging—Poisons.*

INSANITY,—Lunacy—Unsoundness of Mind,—are all terms for a disorder, of which it has puzzled the most acute to give an accurate, and, at the same time, sufficiently comprehensive definition, although all are aware of the general sense of the terms used to indicate the disorder. It is sufficient for our purpose here, to mention, that the most general division of the subject is into mania, that is, insanity, along with more or less violence in demeanour and action; monomania, in which either the understanding or the will is perverted on one particular point, and dementia or incoherent thought, verging to imbecility; amentia, or idiocy, has been already adverted to.

The main character of insanity, in a legal point of view, is said to be the existence of delusion, that is, that a person should believe something to exist which does not exist, and that he should act upon this belief. Many persons may labour under harmless delusions, and still be fitted for their social duties; but should these delusions be such as to lead them to injure themselves or others in person or property, then the case is considered to require legal interference,—otherwise not.†

The approaches of insanity are variously characterised; sometimes, *to all appearance*, it comes on without warning, a sudden outbreak of violent mania being the first intimation of the disease; even in these cases, however, investigation will generally discover, that there has been some amount of preceding disorder, some sleeplessness, some unusual irritability, or mental excitement, perhaps concealed or controlled by the individual. In other cases, the mental oddities, irritabilities, fluctuations of spirits, &c., have been evident, but too slight to excite apprehension. At the last, the acute attack may be induced by some severe or prolonged mental emotion, or by some physical depression. The onset of the attack itself, is frequently preceded by or accompanied with feverish symptoms, which particularly affect the head. In this case, the insanity is, probably at its first onset, accompanied with acute affection of the brain or its membranes, and partakes of the character of delirium properly so called. Where the
circumstances, such as hereditary
position, or previous warning sym
give rise to the suspicion of imp
insanity, medical advice must at o
sought, preparatory to the one essenti
most merciful step—removal of the
to an asylum. In the meanwhile, th
perfect quiet, both of body and min
the treatment recommended under th
of "Delirium," will be the most ad
mode of proceeding.

Insanity is a disease, which, whe
developed, ought never to be kept
domestic management, or rather mism
ment; the only reasonable hope res
speedy removal to proper care, and to
of external circumstances specially a
to promote recovery. Asylums for
sane are not what they were, and th
attached and affectionate relative n
fear to place the afflicted under the
tion of a well-managed establishmen

The following extracts from the i
ing "Reports" of Dr. Brown, the en
superintendent of the Crichton A
near Dumfries, will best explain the
and connection of the insane on an
society at large and will show how
comfort, and it may be said happines
be enjoyed by the afflicted under ki
intelligent management. In the Re
1845, it is remarked, "Prompt treat
of most importance, and obstacles
make it difficult of access, afford a
and palliation for that repugnance to
to isolation, which still exists in the
of friends and guardians, but which is
and falling, and must ultimately fall
the influence of a system of dis
founded upon humanity, and which i
to investigation. The procrastination
occurs when an individual is attacke
insanity, in adopting the only course
can ensure the enforcement of ju
means of care and cure, is the re
various causes; . . . frequently
be traced to ignorance, that the extrav
and incoherence which inflicts so
pain, and creates so much confusi
symptoms of diseased organization;
scepticism that these originate, in
disappear, or are removed, according
same principles, and nearly in the
manner that gout and jaundice ar
gated or removed. If the opinio
generally prevalent, that insanity
cases, whether its development is dete
by disappointment or by a blow on the
whether signalized by great constit
disturbance or apparent robustness of
depends upon bodily disorder, and ca
be reached, whether curable or not. t

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† Taylor's Medical Jurisprudence.

* Those who have had large experience of coroner's inquests, know full well that there is no system
country which calls more loudly for reform. They are often held, and medical and other witnesses ex
at great length, causing, of course, expense to the country, when the cause of death is as clear a
day, and no one to blame; whilst they are often not held under circumstances of just suspicion. No
medical coroner can ever deal with the difficulties that every day arise in cases of sudden death.

the body, and by agents which act in accordance with the known laws of the economy; advice would be sought at once, or as speedily as in other maladies: the powers or efficacy of medicine would be put to a fair test, and it is admissible to anticipate, that the mortality and evils of an intractable class of diseases would be materially diminished. Even now, when months are allowed to elapse before assistance is obtained, a very large proportion of the more transient and trivial cases of mania are found to recover under judicious management, while one-third, at least, of the more desperate and chronic and hopeless cases, which are sent to public institutions because they have set all conciliatory and temporising expedients at defiance, and resisted the treatment pursued, are ultimately restored to such a degree of intelligence, as to capacitate for the resumption of former pursuits and responsibilities, and for the performance of the duties of active life."

But even within the walls of an asylum, active duties and enjoyments may be engaged in, if properly arranged. In the Report for 1851, Dr. Brown remarks, "The character of the moral managment is activity without excitement, progress, the combination of self-government, with appeals to the intellect and sentiments. There is always something to expect to prepare for; some anticipation or some retrospect. Patients are participators in every arrangement. They are identified with the recreation as well as the labours of the community. They are led to understand that each progressive step is not merely for them, but by them. They are their own gardeners, labourers, players, precentors, (*anglice* clerks), librarians, and, under certain restrictions, their own police. Each day has its appropriate relaxation, as well as its duties; but monotony, which engenders torpidity rather than tranquillity, even the monotony of continued recreation, is obviated by useful pursuits and physical exertion. Sub-matrons have been thrice selected from the patients; they delighted in the badge of office, and proved worthy of the trust. The library is now intrusted to a patient whose mind seems specially constituted for such an avocation. He has prepared and nearly arranged the catalogue, which is to be printed at the institution press." The drama has been used and found useful, both to "interest and elevate many classes of the insane," both as performers and spectators. Further, in the same interesting Report, it is said, "The number of cultivated minds which still retain former predilections, though shorn of former power, may be learned from the solicitude displayed in adding to the collection of books, in multiplying literary pursuits, and in extending the range of intellectual impressions." After describing the occupations of many of the inmates of the institution, the Report continues, "The act of composition, from whatever motive it may proceed, is beneficial and invigorating. It could only be by the sudden withdrawal of this liberty of thought, and of these intellectual luxuries, that their full efficacy could be tested in establishing tranquillity, and in suggesting a deportment which closely resembles, if it do not entirely realise, that of sanity and serenity. Worship is regularly performed according to the forms of the established churches. Members of other communions visit their churches in Dumfries, accompanied by officers, or are visited by their own clergyman. The timidity which formerly excluded the insane from such ordinances, or concealed their presence by a veil, has passed away; the error that they were incapable of comprehending or joining in worship has been demonstrated; and in these assemblies, children and maniacs are seen to bend the spirit and the knee side by side; in them it is impossible to distinguish the sane from the insane, the guardian from his charge; and all ideas are banished from the mind of a spectator except those of universal brotherhood, and that peace which passeth understanding. It may be that there is a sense of supplication where there is no power of precise and articulate prayer; and it may be, that independently of, and even in opposition to, external manifestations, there is an 'inner life hidden with God;' but it is certain that reverence and attention prevail; *that the tranquillity is greater than under other circumstances*, that the acknowledged effects are contentment and calm."

Did space permit, there is much of interest and information which the author would wish to have extracted from the able reports of this splendid and well-managed institution, but enough, perhaps, has been given to convey some idea of the interior arrangements of a well-conducted lunatic asylum of the present day. None, perhaps, are so ignorant as to believe that the chains and other barbarisms, nay even the lash, are the lot of the inmates of these hospitals, for such they may truly be called, but the generally diffused ideas, either of the treatment or of the capabilities of the insane, are very undefined or erroneous.

A very erroneous idea exists, particularly among the ignorant, that if a person be insane, he cannot act or look like a rational being at all, but must be constantly doing things in an insane manner; consequently, if the individual be simply lunatic or monomaniac, without being actually under the influence of maniacal excitement, or even should he have a "lucid interval," that is, a temporary cessation of mania, and temporary return, either wholly or partly, of his rational condition, those around are apt to be lulled into a false security, the vigilance or attendance is relaxed, and a momentary return of the delusion is attended, perhaps, with the most serious consequences, rendering nugatory hours and days of anxious care.

In addition to the various causes predisposing to, and directly exciting insanity, such as hereditary tendency, political or commercial excitement, grief and disappointment, false or erroneous religious excitement, &c., no fact is more clearly ascertained than the vast amount of insanity caused by drunkenness. The temporary insanity of intoxication cannot be indulged in with impunity; it may be frequently repeated, but at length the mind permanently gives way, and the individual becomes a confirmed lunatic. On this point, Dr. Robinson of Newcastle, in an interesting paper upon the *Mutual Relations existing between Intemperance and Insanity*, remarks, "Intemperance and Insanity, the two greatest curses of civilization, are in their very nature so intimately connected, that any examination of the one would be necessarily incomplete without the other; for both exhibit, as their essential phenomena, perversion or disorder of those mental powers which impart to man his vast superiority over the rest of the creation. Since, then, a single dose of intoxicating substance possesses the power of temporarily disordering the intellect, perverting the moral sentiments, and even wholly suppressing the operations of the mind, it is not wonderful that the continued use of such agents should frequently induce permanent mental derangement." In a table drawn up for the returns of twenty-five asylums in England and Wales, is found that one-fourth of the cases of insanity admitted are referred to intemperance alone, and to it, in conjunction with vice and sensuality, nearly one third.

Refer to—*Delirium—Delirium Tremens—Dipso-Mania, Monomania, &c.*

INSPIRATION.—The act of drawing air into the lungs, and the opposite of expiration, which consists of its expulsion; the two together constituting respiration.

INSTRUMENTS.—But few of these mechanical agents used by the surgeon in the treatment of disease, can ever be of legitimate use to unprofessional persons livi within reach of a medical man, and th who are likely to be placed in circumstanc where such assistance is not available, w may wish to be prepared for emergenci should get themselves practically instruct in the use of the few they may venture take in hand. The instruments required such operations as bleeding, cupping, toot drawing, &c., are sufficiently described und the articles devoted to the subjects. addition to them, the dweller—such as clergyman—in a remote parish, even in th country, might find the following useful:-

Lancets. A silver probe.

A gum scarificator.—See *Children.*

A pair of plain forceps } See *Forceps*
A pair of spring forceps } *and Dressing.*

A vaccinating lancet, or Weir's vaccinat —See *Cow Pox.*

A pair of scissors with blunt points.

A caustic case.

A two-ounce syringe.—See *Syringe.*

A clyster instrument, or rather two; o being on Read's principle, and one th elastic bag.—See *Clyster.*

To these the emigrant might add with advantage:—

A tenaculum.—See *Tenaculum.*

A tourniquet.—See *Tourniquet.*

A shut-up bistowry, or knife.

It is perhaps superfluous to add, that thes should be got at some respectable surgical cutler's; and it is well to add, that all who provide themselves with them should endeavour, if possible, to get a little practical instruction in their employment.

INTEMPERANCE.—See *Stimulants.**

INTER-MARRIAGE.—See *Marriage.*

INTERMENT.—See *Burial—Death, &c.*

INTERMITTENT—A term applied t diseases which, like ague and neuralgia, come on in paroxysms, between which there is an interval of comparative freedom from the symptoms of the disease. The term i also applied to the pulse, when some of it beats are as it were omitted.

INTOXICATION—Means literally what it really is, a condition of poisoning, either by alcohol or by other narcotic agents: the former however being the most frequent cause in this country. Intoxication from the use of opium, Indian hemp, &c. is adverted to in the articles upon these agents. The phenomena of alcoholic intoxication are thus described by an esteemed writer: "The effects which follow the introduction of a large quantity of moderately diluted alcohol into the stomach, are, first, the local excitement of this organ indicated by the sensation of heat in it:" "this impression is next conveyed to the brain, spinal marrow, and entire nervous system; ideas of unusual brilliancy pass through the mind. As the power of the stimulus increases, all control of the will is suspended; the ideas are then irregular, and instead of being combined in such a manner as to produce even agreeable conceptions, they arise in the most incongruous order; the extent of the excitement becomes apparent in the unusual vivacity of the eye, the swelling of the veins of the neck, and the beating of the arteries; but new symptoms quickly follow, namely, pain in the frontal region, the head drops on the chest, the eyes lose their expression and are half-closed, the physiognomy is altered and vacant, the voluntary muscles cease to act, the arms are pendent or their movements are irregular, the legs cross one another in the effort to walk, giddiness supervenes, and delirium follows. The exhausting influence of such a state is too great to continue; in a short time collapse, and sleep, resembling that of apoplexy, follow." Probably, the influence of alcohol upon the brain, in the first place at least, is partly effected through the nerves of the stomach, but it is very quickly absorbed into the blood, and speedily reaches and acts directly upon the brain itself: this has been proved by experiment and examination after alcohol had been swallowed, and there has been found in the brain a considerable quantity of fluid distinctly impregnated with spirit, to such an extent, even, as to burn.

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* See also Dipsomania—Appendix.

The cases of sudden death—too frequently recorded in the newspapers—from the rapid drinking of a large quantity of spirit, may be quite accounted for by the shock communicated directly by application of the spirit to the brain itself, or indirectly by a shock given to the stomach and its nervous connections, with an effect similar to that which ensues from drinking largely of very cold water when the body is heated and exhausted, or from a blow on the stomach. Death in the latter stages of intense intoxication is similar to that from some forms of apoplexy. Some indication of the amount of danger to life, existing in a person in a state of intense intoxication, may be gathered from the condition of the iris—see Eye—If this retain its power of contraction, the person will generally recover; if, on the contrary, it remain in a state of extreme dilatation and immobility when a strong light is directed upon it, only a feeble hope of recovery can be entertained. The ordinary duration of fatal cases of intoxication is said to be from twelve to eighteen hours, but on this head there is considerable variation. When death is threatened from the absorption of alcoholic fluid into the system, the individual, after the usual symptoms of intoxication, becomes insensible; the face is flushed and the vessels of the head distended; the pupils contracted and the skin hot; or contrasting with violent throbbing action of the heart and arteries, the face is deadly pale, lips blue, pupils dilated, surface cold and covered with clammy sweat; the natural contraction of the muscles is suspended so that the jaw drops; in short, there is every appearance of death, which, indeed, may speedily take place: even from this apparently hopeless state, nevertheless, a patient may be roused by appropriate measures.

The first proceeding which naturally presents itself in the treatment of such cases, is to procure the evacuation of any alcoholic fluid which may remain on the stomach. If a medical man is at hand he will probably effect this by the stomach-pump, if not, sickness may be excited by the first procurable emetic—except antimony—or by a feather in the throat. After the stomach has been emptied by vomiting, a little sal volatile in water, or hartshorn in water, or vinegar and water should be given; cold water should be used freely to the head: it is most effectual if poured upon it in a regular continued stream for some minutes. If the extremities are cold, heat should be applied to them. The author has found a stimulant injection of an ounce of turpentine in half-a-pint of gruel, of much service in rousing the depressed system. Mustard-plasters may be applied to the pit of the stomach, between the shoulders, &c. It ought to be remembered, however, that sensibility may be restored, and the most serious symptoms dispelled, and yet, if the stomach has not been entirely emptied, they may again return and prove fatal, unless the patient is closely watched.

Refer to—*Stimulants.*

INVERSION—The turning inside out of an organ, such as the womb. It is a serious accident which sometimes occurs under peculiar circumstances, as after labour. The assistance of a medical man is always imperatively called for.

INUNCTION—The rubbing of an ointment upon the skin, for the purpose of promoting the absorption into the system of any medicinal substance contained in the ointment. Ointments which contain mercury or iodine are principally used with this intent.[*]

IODINE is a body at present considered as elementary; it is principally obtained from sea-water, or sea products, but is also found in some mineral waters, and in some plants, such as common water-cress. Iodine exists in the form of dark metallic-looking scales, it possesses a strong pungent odour, and stains whatever it may come in contact with of a deep yellow or brown colour. When heated in a flask, iodine rises in the form of a beautiful violet-coloured vapour, and condenses unchanged on the side of the glass.* Iodine and its preparations are much used by medical men, but can scarcely fall within the sphere of domestic remedies; the ointment of the combination of iodine with potash is used in bronchocele, or swelled neck.—See *Bronchocele.* When combined with iron, iodine is a remedy of much value in debility, and in scrofulous disease; it is, however, a medicine that should never be taken without medical sanction.

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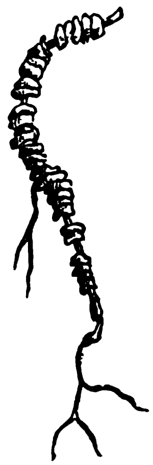
[*] Inunction of Cod Liver Oil in cases of great emaciation, especially in children and in patients of a consumptive or scrofulous tendency, has been found of decided benefit. In cases, too, of obstinate vomiting, for instance, in young infants, when everything is rejected by the stomach as soon as taken, the rubbing in of Cod Liver Oil twice a-day, may be resorted to.

IPECACUANHA—at once one of the most valuable medicines of the practitioner, and one of the safest remedies which can be used domestically—is the root of a pretty little South American plant. It is brought to this country in pieces about the thickness of a goose-quill—fig. A—and about six inches long, brown, wrinkled, and knotty; but its most characteristic feature, and that which serves to distinguish it from spurious roots often attempted to be substituted for it, is its ringed appearance, it seems as if made up of a number of separate pieces, or rings, strung, as it were, upon one central stem.

A



Ipecacuanha is best known as an emetic, and it is perhaps the most certain, safest, and best of the class we possess. No family medicine-chest in the country should be without it. It is also a valuable expectorant and diaphoretic remedy, and facilitates greatly the action of aperients. The powder and the wine of ipecacuanha are the most general forms in which it is used; as an emetic, it should always be given in powder if possible; a great error is often committed in giving children the wine to act emetically, for frequently it fails in action altogether, or requires so much, as to make the amount of wine given a consideration; in cases of febrile disease especially. As an emetic, the dose of ipecacuanha powder is from twenty to thirty grains for an adult, half that to a child of ten years old. For young children, especially when, as in chest affections, the constitutional and expectorant influence of ipecacuanha is as much wanted as its emetic effect, the author prefers giving it in smaller divided doses; for this purpose, from twelve grains to a scruple of ipecacuanha powder may be rubbed up with an ounce and a half of sugar and water, and of this a tea-spoonful given at intervals, according to the effect desired or produced. Quarter-grain doses of ipecacuanha, combined with any of the common aperient pills, seem to facilitate their action, and to leave the bowels with a better tendency to relaxation than before.

When ipecacuanha fails in exerting its emetic influence; and, indeed, sometimes when it does cause vomiting, it acts upon the bowels, producing diarrhœa. Its emetic action is slower than that of sulphate of zinc, and the latter is therefore more generally used in cases of poisoning, provided it is at hand. Ipecacuunha enters into the composition of Dover's Powder.—See *Opium.* Ipecacuanha may be kept in the form of powder; but, perhaps, for those who may not be able to renew their stock frequently, it will be preferable to have it in the form of the entire root, as it will thus longer preserve its activity; moreover, the purchaser may then assure himself that he gets the genuine article, which it is impossible for him to do when he buys the drug in powder. The labour of powdering is not very great, and the wine may be made by steeping half-an-ounce of the well-bruised root in half-a-pint of sherry for two or three weeks, and then filtering.†

Refer to—*Emetics.*

IRIS.—See *Eye.*

IRON, the well-known metal, is and has been used as a medicinal agent in a great variety of preparations, it also forms one

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* A few grains of Iodine sprinkled over a common plate, the bottom of which is gently heated by means of a spirit lamp, or a common candle, will give off purple fumes, which act powerfully as a disinfectant for the sick-room—See Appendix; Article—Disinfectants.

† The wine of the British Pharmacopœia is one-fifth weaker. The action of Ipecacuanha as an expectorant is improved by combination with an alkali, such as soda. Four grains of powder of Ipecacuanha, and one drachm of carbonate of soda, with half a pint of water, forms an excellent expectorant mixture, to which may be added from half a drachm to a drachm of Chloric Ether, to improve the taste. From twenty to thirty minims of Laudanum to subdue cough, or one to two drachms of Tincture of Squills to aid expectoration. The dose of the mixture—two table spoonfuls.

ost common ingredients of mineral
The tonic and strengthening pro-
f iron are well known, even popu-
d, probably, we have no remedy of
l so generally useful and applicable
of debility; at the same time, it is
much adapted for domestic use as
edicines of less value. The cases in
reparations of iron are most em-
re not emergencies, they are usually
tional affections of some standing,
medical advice is not only requi-
he general treatment, but also as a
r the administration of the iron,
improperly given, may do much
; persons who are habitually cos-
o suffer from piles, or from deter-
of blood to the head, require to be
y careful with respect to the use
ines containing iron; and should
ke them without medical advice.
k, the pallid, the delicate, may, for
part use them with greater safety,
generally with benefit.
ncture of the muriate of iron, or as
d popularly, "tincture of steel," is
e most generally used and useful
ions, in doses of from ten to fifteen
ice-a-day, in water, for an adult*
disagreeable, and children take it
the dose four or five drops to a
six years of age. This preparation
fully astringent, and is extremely
relaxation of the throat, applied
s of a camel-hair brush. The
sulphate of iron, or green vitriol,
r cheap and good preparation, in
from half-a-grain to a grain dis-
water, or made into pill with
bread. The ammonia-tartrate of
citrate, and the citrate of quinine
, are all recent introductions; the
very soluble in water—dose, one,
hree grains.† See *Citrates*.
incipal iron mineral waters, or, as
usually called, chalybeate springs,
country, are those of Tunbridge
Harrogate; Isle of Wight; Holy-
Lancashire; Hartfell, near Moffatt,
iblane, in Scotland.
iron is really required by the con-
, it cannot, probably, be taken in
e beneficial form than that of a
water; at the same time, these
sources of the medicine are open
me objections and cautions as its
preparations, and many persons
emselves by inconsiderately, and
advice, drinking these waters regu-
rely because they happen to be
them for the time being. In
waters, iron is found in a state of great dilution, and the striking benefit which follows its use in this state in proper cases, justifies the fact that, when given artificially, it is found to be most serviceable in small doses in a considerable quantity of water.

Persons who are taking preparations of iron should pay extra attention to their teeth during the time, to prevent discolouration. The evacuations from the bowels always assume a dark or black colour, during a course of iron, and particular attention is always required to keep the bowels in a perfectly open state during the continuance of the remedy.

IRRITABILITY cannot perhaps have a better definition than that of Abernethy, "excited debility." It is a symptom of many diseases, trying both to patients and to their attendants, but one for which every allowance and consideration ought to be made. Those who have never suffered from the weakness of disease, especially such as affects or has affected the nervous system, cannot imagine in how many ways, which appear not only trifling, but absurd, to a person in health, the irritability of the invalid may be jarred upon.

The term irritability is also used to express that property of muscular fibre, to which it owes its powers of contraction.

IRRITATION may be defined as diseased excitement, not amounting to inflammation. Many of the diseases of children partake more of irritation than inflammation. What is called irritation of an organ may take place at a distance from the source of the irritation; thus, worms and other matters in the intestines may cause convulsive and other affections consequent upon irritation of the brain, or the irritation of the gums in teething may also cause convulsion, or spasmodic croup. The irritant action being in these cases in the first place felt by the brain, and thence reflected so as to affect the muscles which are thrown into spasm.

Refer to—*Convulsion*.

ISINGLASS.—See *Gelatine*.

ISLE OF WIGHT.—The portion best adapted by shelter and situation for the residence of the invalid, is the Undercliff, of which Sir James Clark observes: "The continuous range of high hills which separates this district from the rest of the island, protects it most effectually from all northerly winds, while numerous short ridges, projecting from the main range towards the sea, break in a considerable measure the violence of the south-west winds.

"The defence afforded by this natural bulwark against northerly winds is, indeed,

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rysipelas—Foot-note.
bly no drug has had a greater number of fashionable innovations as regards the new pre-
of its salts which have from time to time been introduced to practice. It is, however, question-
of them are superior to the old Tincture of the Muriate of Iron. Many of the new ones are very
. Among the most useful and the best, may be mentioned Syrup of the Phosphate of Iron—dose,
drachms, and for special cases, Arseniate of Iron—dose, one twenty-fourth to one sixth of a grain.
e of Strychnia and Iron, is also a valuable preparation in atonic dyspepsia, and in certain func-
ine derangements—dose, 5 grains.

more perfect than anything of the kind with which I am acquainted in England."

From the elevated position of the Undercliff, fogs are rare, and less rain falls than in other parts of the island; and the soil being of sandstone and chalk, the ground speedily dries after rain has fallen. "The mildness and dryness of the climate during winter may be in some degree estimated by the circumstance of myrtles, geraniums, sweet-scented verbena, and various tender and green-house plants usually withstanding the winter in the open flower-borders."

The Isle of Wight is undoubtedly suited to most of those cases where a mild winter residence is indicated.

ISSUE.—An issue is an artificial sore, from which a discharge of matter is kept up by artificial means; it may, therefore, be formed in various ways, such as burning with a red hot iron, by caustics, &c.; but the most general, and indeed common form in popular use, is the pea issue. This is made by pinching up a fold of the skin, and making an incision into it, which will admit the insertion of two or three peas, which are to be secured in the wound by adhesive plasters. In the course of a few days the irritation occasioned by the peas causes discharge of matter; the peas are generally changed every day, or two days, as long as the issue is desired to be kept open.

A very good issue may be formed by blistering the skin by means of one of the blistering tissues, and applying daily a piece of the same tissue to the sore, to keep up the irritation.

The seton is only another form of issue, made by passing a skein of silk through a fold in the skin, by means of a seton needle made for the purpose.[*]

The principle on which issues, setons, and other means of counter-irritation are established, is that of producing derivative action, and to the article on that subject the reader is referred; also to "Counter-Irritation," "Blister," &c. The strictest cleanliness must always be observed about an issue or seton, or any other discharging sore. It is perhaps superfluous to add, that an issue should never be made on a portion of the skin which is liable to be visible.

ITCH.—This dreaded skin affection consists of the eruption of small pointed vesicles, which shew themselves chiefly upon the wrists and between the fingers, but also at the bends of both the upper and lower extremities—in children, upon the breech[†]—and is attended with excessive itching, when the person affected gets warmer than usual, either in bed or after taking stimulating food or exercise. The itch attacks persons of all ages, or of either sex, and may be spread by contagion through those of any rank of life; it is, however, more likely to become established, and to be propagated wherever cleanliness is neglected; and among the poor, especially in those of bad constitution, and who are also badly nourished and clothed, it is apt to be mixed up with other eruptions, indicative of the impaired constitutional power.

Coincident with the eruption of itch, there is often discoverable a minute insect of the mite kind, which burrows in and deposits its eggs in the skin. By some, the origin of the disease is ascribed to this insect, by others this is denied.[‡]

Fortunately the cure of this disagreeable affection is in almost all cases certain and quick; sulphur being the agent generally employed in the form of ointment, made by rubbing up one part of the common flowers of sulphur with two parts of lard. Before the application is used, the entire skin should be thoroughly washed with soap and water; the ointment must then be well rubbed in all over the body, and washed off again next morning; the person sleeping in a flannel dress, or between blankets. This process may be repeated two or three times if requisite. In persons of full habit of body, it is advisable for them to take an active purgative the day before using the sulphur ointment.

A much quicker method of cure is said to be employed in the Hospital of St. Louis, in Paris. It is thus reported in the *Lancet* for December 20, 1851:—"The patient is put into a warm bath, and rubbed for an hour with yellow soap; he then passes into a clean bath, where he continues to cleanse his skin for another hour. After leaving this bath he is taken to a particular room fitted for this purpose, and, with the aid of one of his fellow-sufferers, he is rubbed all over for half-an-hour with the following ointment: Lard eight parts, flower of sulphur two parts, carbonate of potash[§] one part." After this friction the patient is generally cured.

In a disease of so contagious a nature as itch, the utmost care is requisite in the avoidance, not only of contact with the person suffering, but with any article of dress, or otherwise, which he may have made use of; and when the person who has suffered is cured, it is requisite for him to exert equal care with respect to these things himself, until they have been purified, either by washing, or by fumigation with sulphur—bearing in mind the effect of the latter agent in changing or discharging the colour of articles of furniture or dress. By some it is said that itch can be cured by the rubbing in of simple lard, or of olive or any of the fixed oils into the skin; the application being used twice daily, for two or three days in succession. The author has no experience of the practice, but it is worthy of trial, if it will supersede the somewhat filthy, and certainly not very odorous application of sulphur.[*] Mr. Erasmus Wilson states that he has found camphor dissolved in olive oil, one part to eight, perfectly efficacious as an application in the cure of itch. When sulphur is used for the cure of itch, it may occasion some amount of irritation of the skin, which, being mistaken for the uncured disease, sometimes causes persons to go on rubbing long after the itch is cured, thereby keeping up unnecessary irritation and causing needless trouble and uneasiness.[†]

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[*] Two or three threads soaked in blistering fluid, and placed behind the ear, form a convenient issue, in cases of eye or ear disease. Nothing acts so effectually, and at the same time so mildly, in keeping up discharge from a blistered surface as Albespeyer's patent plaster.

[†] Because the *hands of the nurse have been affected in the first instance*, and have communicated the disease chiefly to this part.

[‡] There is now no doubt that the disease is due to the presence of the parasite.

[§] The use of the potash is to dissolve the cuticle and so admit of the sulphur freely entering the grooves where the animalcules burrow. The above ointment is by far the best yet discovered for the treatment of itch.

JALAP,—so well known as a purgative, is the root of a species of plant resembling a convolvulus, a native of South America, its name being derived from Jalapa, a town in Mexico, in the neighbourhood of which the drug is produced. Jalap is an active purgative, in doses of from ten to thirty grains, but with some persons it causes great nausea, and others it gripes severely. The best form for its administration is the compound powder, composed of jalap in powder three ounces, cream of tartar six ounces, and ginger two drachms, well rubbed up together; the dose half a drachm to a drachm. There are purgatives more convenient for domestic use than jalap.

JAMES'S POWDER.—See *Antimony*.

JAUNDICE—is one of the secondary diseases, the result of a primary one. That is, some cause, in the first place, stops the flow of bile from the liver; and jaundice, which consists in the absorption of that bile into the blood, is the effect.

This impediment to the flow of the bile, may arise from whatever blocks up the canal of the gall duct.—See *Gall-Bladder*. Probably, gall-stones, or thickened bile, are the most common obstructions; but tumours which press upon the duct, or spasm, may also stop the bile and induce jaundice. Jaundice has sometimes succeeded to violent mental emotions. The presence of bile in the blood is quickly manifested by the colour of the skin, and also more particularly of the white of the eye; the shade of colour varying from the slightest perceptible tinge, to deep golden yellow, or even brown. At the same time, the stools become white and chalky-looking, and the urine—sometimes the perspiration—is deeply tinged with bile[‡] the constitutional symptoms are generally those of disordered digestion, headache, and languor. For many reasons, jaundice is a disease which ought, when possible, to be under proper medical treatment, not so much from the danger of the affection itself, as from its being symptomatic of disorder elsewhere. Should gall-stone or spasm be the cause of jaundice, the case is generally plain—see *Gall-Stone*—but should the presence of a tumour, or disease of the liver be the origin, it requires medical examination for its elucidation.

The treatment of jaundice, which unprofessional persons may adopt in the absence of a medical man, is very simple: from five to eight grains of "grey powder" being given at bed-time, either alone, or, if there is pain, made into pill with extract of henbane, and followed by a dose of castor-oil or senna in the morning. When there is much acidity of the stomach, carbonate of soda may be given. The diet should be simple, devoid of milk, fat, or saccharine articles whilst the jaundice exists, and all alcoholic stimulant avoided. Of course, when violent spasmodic pain indicates gall stones, the measures recommended under the article on the subject must be adopted[§]

Refer to—*Bile*—*Gall-Bladder*—*Liver*, *&c.*

JAWS.—See *Skull*.

JEJUNUM.—A portion of the small intestines.

JELLY.—See *Cookery*—*Gelatine*.

JESUIT'S BARK.—See *Bark*.

JOINTS.—Also called articulations. The joints, generally, from their mobility and exposed situation, are very liable both to accident and disease; in either case, much care on the part of the attendants, and much patience on that of the patient, is called for, as it need scarcely be remarked, that the most perfect rest is, in most cases of disease affecting the joints, *the* essential, for which no other remedial measures will compensate. Incurable disease of the bones of a joint does not now, under the improvements of modern surgery, necessitate the loss of the limb, the joint, such as the elbow—and even the knee—may be cut out, and, in the course of time, a tolerably useful member remain, a kind of new joint being formed.

Refer to various joints—*Ankle*—*Hip*—*Knee*, *&c.* Refer also to articles—*Dislocation*—*Skeleton*, *&c.*

JOY.—This powerful and instantaneous mental emotion, may act beneficially upon the body, but it may do so in the reverse. There are so many recorded instances, either of overturned reason, or of death resulting from excessive and sudden joy, that too great caution cannot be exerted in arousing it in persons of a nervous temperament, or in those who are debilitated by disease. Epilepsy has resulted from sudden joy.

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[*] This has been proved to be fallacious.

[†] Cases in which there is much irritation of the skin, and which have run on for any length of time, resisting the ordinary means of cure, should at once be shown to a medical man.

[‡] The patient often describes it as "like porter."

[§] Sometimes a slight attack of jaundice may be removed by taking two compound rhubarb pills every night for a few nights.

JUGULAR VEINS—are the large veins which convey the blood from the head and face, back to the heart. They are both external and internal.

Refer to—*Neck—Veins, &c.*

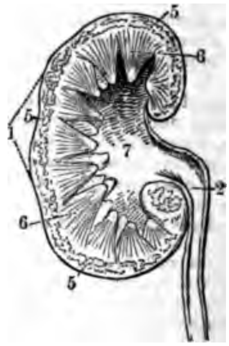
JULEP,—an old name for what are now called *Camphor Mixture—Mint Water, &c.*

JUNIPER.—Two species are used in medicine; the common, well-known, juniper which grows in this country, and the juniper which yields the savine. The former of these, the common juniper, is a diuretic, a property it owes to its essential oil, and cannot be employed in any better form than that of Holland's gin, which was originally introduced as a medicine.—See *Gin.* The savine is notorious from having frequently been employed for criminal purposes, and, when so employed, from its fatally irritant properties being frequently manifested. Savine has been used as a remedy for destroying worms in children, but cannot be regarded as safe.*

KALI.—POTASH.—See *Potash.*

†KIDNEY.—The kidneys, or glands whose office is the secretion of the urine from the blood, are situated on either side of the spine —fig. A, 1, 1—just in what is usually called the "small of the back," where they lie imbedded in fat. Each kidney is supplied with blood, by vessels—3, 3—which proceed from the aorta or main blood vessel.—See *Aorta.* From each kidney issues a duct—fig. A, 2, 2; B, 2—the ureter, which conveys the urine into the bladder—fig. A, 4. When cut open—fig. B—the kidney presents even to the naked eye, two very different structural arrangements; an outer one, granular looking, the "cortical" substance —fig. B, 5, 5—and an inner or "tubular" structure—fig. B, 6—the latter being, as represented, arranged in pyramids or cones, with their bases situated upon the cortical substance, and their points or apices, which are free, pointing inwards, and opening into a central cavity—fig. B, 7—the "pelvis" or basin of the kidney, which may be regarded as an expansion of the upper portion of the ureter—2. The entire kidney is enveloped by a sufficiently strong membrane or "capsule," and is lined by a smooth "mucous" membrane, continued into its cavity, by the ureter from the bladder. Those who are curious on the subject, may easily make out these particulars, by examining the kidneys of the sheep. When the minute structure of the kidney is microscopically examined, it is found to present a very beautiful arrangement. The tubular portion—fig. B, 6—is seen to consist of numbers of minute tubes about the diameter of a hair, and minute blood vessels, placed side by side; these tubes, as they proceed towards the bases of the cone, or towards the cortical structure—fig. B, 5—become forked and twisted, and at last end in a minute globular expansion, on

B



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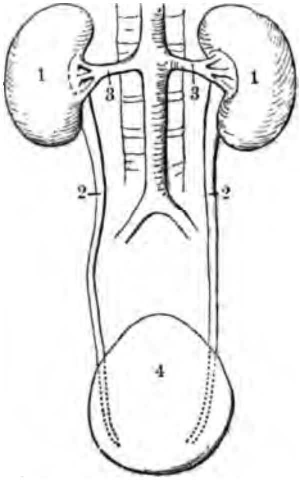

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* The Oil of Juniper may be given as a diuretic, in the dose of two to ten minims; the spirit, twenty minims to one drachm and a half.

† KAMELA is a red powder scraped from the fruit of the Rottlera Tinctoria, belonging to the same natural family as the castor oil plant. It is an excellent remedy for tape worm, being almost, if not quite as efficacious as the oil of male fern, and having this advantage over it, that it is not so nauseous nor so apt to gripe or purge—dose, one drachm of the powder in treacle or orange-electuary—taken fasting.

which the "capillary" or hair-like branches of the artery of the kidney are spread out in a kind of tuft. It is these globular expansions, each about the one hundredth of an inch in diameter, which give this portion of the kidney its granular appearance. The minute blood vessels which had been spread out in a tuft, are again collected into one vein—and these minute veins are distributed amid the tubular structure, previous to being collected into larger trunks for the conveyance of the blood out of the kidney. The object of all this elaborate arrangement is this:—the urine is secreted from the blood which is conveyed into the kidney by its own proper artery, the watery portion of the fluid, being strained off, as it were, from the minute tufted vessels, described as being expanded over the globular expansions, and the other constituents being separated by secreting cells from the blood, after it has been re-collected from these tufts, and as it passes among the tubular structure. The mingled watery and other constituents of the urine—see *Urine*—being thus separated from the blood, and united, pass down the straight tubes in the form of urine, which is discharged from the points of the cones—fig. B, 6—into the central cavity or pelvis—7—whence it is continually being drained off by the ureter—2—into the bladder—4. The ureter is about the diameter of a goose quill, is about eighteen inches long, passes behind the bladder, as represented by the dotted line—fig. A—and enters that organ at its lower part.

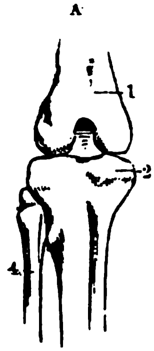
The diseases of the kidneys could not be profitably entered into with unprofessional persons, and, when suspected, should, without delay, be submitted to proper medical care. In the meanwhile, should there be much pain in the back, the application of hot moist bran, or of heat and moisture in some way—see *Heat*—will be of service; a gentle aperient, such as castor-oil, should be given, and also warm demulcent drinks, and warm clysters used. Should there be shivering and signs of fever, with much tenderness, over the kidneys, and *no medical advice at hand*, blood may be taken away by leeches or cupping, and a dose of opium given. Gravel—either in one piece, or in grains—sometimes collects in the cavity—fig. B, 7—and causes pain in the back whilst it remains; when, however, it passes into the ureter—2—it causes extremely violent spasmodic pain, constituting what is usually called "a fit of the gravel."—See *Urine*.*

KING'S EVIL,—a name for Scrofula, which originated in the superstition that the disease was cured by the touch of a king. The practice is said to have originated with Edward the Confessor; it is, perhaps, needless to add that it has become obsolete.

KING'S YELLOW—is a compound of arsenic with sulphur.—See *Arsenic*.

KINO—is the concrete juice of a tree, and is brought chiefly from the East Indies: it is an astringent closely resembling catechu, and is used for the same purposes.† See *Catechu*.

KNEE.—The knee is, perhaps, the most important joint in the body, and is certainly the most serious, to be affected either by disease or injury: it is formed of three bones—fig. A—the extremity of the thigh bone—1—the upper extremity of the larger leg bone—2—and the knee-cap, or "patella," which lies on the fore part of the joint, but which is supposed to be removed in the figure. The small bone of the leg—4—does not enter into the construction of the joint. The rounded ends of the thigh-bone rest in shallow excavations in the expanded broad head of the bone of the leg, the knee-cap protects the joint in front, and enables the muscles of the thigh to act with more advantage and greater leverage in the movements of the leg; the entire joint being fitted and bound together by means of cartilages and ligaments.—See *Ligaments*.



The knee-joint is liable to become the seat of inflammation, either acute or chronic, caused either by violence or wounds, or as the result of constitutional causes. In any case, the disease is of so serious nature, that it should as soon as possible be put under proper medical care. If the knee-joint has been opened into by a wound, the only course for an unprofessional person to pursue in the absence of a surgeon, is to close it as quickly and effectually as possible,

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* See also Bright's disease.

† The Tincture of Kino is an excellent astringent. The powder of Kino with Opium contains one grain of Opium in twenty of the powder, and is a valuable preparation in certain cases of Diarrhœa, &c.

—see *Wounds*,—to put the joint in a state of the most perfect rest, to keep it cool with cold water applications, the sufferer being put on low diet, and the bowels attended to. When inflammation of the knee-joint arises, either as a consequence of wound, or from any other cause; very free leeching is requisite, along with fomentations and poultices, and the constitutional treatment of inflammation generally. Blisters near the joint should never be used in an early stage.

"White swelling" of the knee, so dreaded popularly, consists of increased effusion of fluid into the joint, consequent upon disease of some portion of its structures; this, however, and other chronic diseases of the knee, require so much educated skill and care, that they must be treated by the medical man: till his aid is procured, the most perfect rest of the limb, the suppression of extra heat by cooling applications, the soothing of pain by warm fomentation or poultice, attention to the state of the bowels, and to the diet, is all that should be attempted. White swelling is often connected with a weakened and scrofulous state of the constitution, consequently, all debilitating measures are, generally, to be avoided. The knee is sometimes the seat of a very unpleasant affection, termed "loose cartilage," which consists of a rounded gristle-like body lying loose within the joint, and which, being apt in the motions to be squeezed between the surfaces of the bones, causes severe sickening pain, and may occasion the person to fall. The surgeon must be applied to.

The knee-cap, from its exposed situation in front of the joint, is liable to various accidents, to fracture,—see *Patella*,—also to dislocation, being pushed to one side; it may be replaced, either by the knee being bent by a second individual, or by straightening the knee, and bending the thigh upon the body, so as to relax the muscles on the fore part of the thigh, within the tendons of which the knee-cap is situated. On the fore part of the knee-cap, between it and the skin, is placed a small "bursa"—see *Bursa*—which is liable to become inflamed in persons who have to kneel much on hard substances. The affection is called "Housemaid's Knee," from its frequent occurrence in that class of servants, who kneel a good deal; it also occurs in thatchers, who press the knee upon the ladder when at work. Matter is liable to form in consequence of the inflammation, and in this case the treatment of abscess generally is requisite. If the disease be taken early, the knee should be rested, and the inflammation subdued by a few leeches and fomentations, &c.; a blister will frequently remove the swelling, or it may be painted over with tincture of iodine once daily, for some time. Occasionally it remains in spite of treatment, and ultimately disappears of itself.—Refer to *Leg—Patella*.

KOUSSO, the new remedy for tape-worm, is the product of a plant brought from Abyssinia, and certainly appears to be a most efficient cure for the above most troublesome and intractable disorder. In two cases—which had resisted all previous treatment—the author found the kousso perfectly successful. At the same time, it is not improbable, if the root of the male fern, found so abundantly in this country, was employed with the same precaution as the far-fetched African remedy, that it would prove equally efficacious.* The following are the directions issued by Mr. Hooper, of Pall Mall, with each dose of kousso:—"The kousso should be taken in the morning fasting. The only preparation necessary is that all *solid* food should be abstained from for twenty-four hours before taking it; and a dose of castor-oil, or a saline purgative, administered the previous evening. The powder is to be thoroughly mixed with about half-a-pint of lukewarm water, (for an adult), and allowed to infuse for a quarter of an hour, being occasionally stirred. The whole is to be taken, liquid and powder, at one, two, or three draughts, at short intervals, being washed down by cold water and lemon-juice, or any agreeable fluid. To promote the operation, tea (without sugar or milk) may be taken, but nothing else In three or four hours, if the remedy has not operated, a dose of castor-oil, or a saline purgative, should be administered."

Kousso is now much reduced from the very high price at which it was first sold.†

Refer to—*Fern—Worms, &c.*

KREASOTE.—See *Creasote*.

LABOUR.—See *Child-birth*.

LABURNUM.—The seeds, and also the bark of the common laburnum are highly poisonous, and a few cases have occurred in which children have been seriously affected in consequence of their eating the former. Vomiting, with delirium and stupor, are said to be the consequences.‡ Treatment similar to that recommended under "Belladonna" should be resorted to, and medical assistance procured without delay.

LACERATION.—See *Wounds*.

LACTATION.—The secretion of milk.

LACTEAL.—See *Absorbents—Digestion*.

LACTUCA.—See *Lettuce*.

LAMB—like other "young meats," is not so desirable for invalids as mutton.

LAMENESS.—See *Ankle—Deformity, &c.*

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* Kousso, or as it is now called, Cusso, is decidedly inferior to the Oil of Male Fern, and to Kamela.

† Infusion of Cusso finds a place in the British Pharmacopœia.

‡ Mr Popham relates several cases of poisoning from Laburnum seeds, in the *Dublin Quarterly Journal*. The first effects were giddiness and pain in the head, with constriction in the throat. After a time pain in the stomach came on, with collapse and vomiting of dark grumous matter, twitchings of the face, and dilated pupils. The patients all recovered under appropriate treatment, as recommended under "Belladonna."

LANCET.—See *Blood-letting*.

LANGUOR is a very general symptom of disease, and is—both true and false languor —sufficiently treated of under the head of "Debility."

LARYNX.—The organ of voice situated at the top of the windpipe.—See *Lungs*.

LAUDANUM.—TINCTURE OF OPIUM.—See *Opium*.

LAUGHTER,—which arises from an excited condition of the nervous system, though proverbial as a promoter of health, may nevertheless, if excessive and prolonged, give rise to serious consequences; the fit of laughter might pass into one of convulsions in a predisposed constitution; or in a child. The practice of tickling children, and thus keeping them in a state of laughter for some time, is strongly to be condemned, and may be attended with some mischief.

Refer to—*Convulsion*.

LAUREL. — The common laurel, more particularly its young shoots and leaves, contains a considerable proportion of prussic acid, and a few cases of poisoning have occurred by their distilled water. The practice of using laurel leaves in confectionary for the sake of the flavour is not to be recommended.

LAVEMENT.—A clyster.—See *Clyster*.

LAXATIVE.—See *Purgative*.

LEAD.—This metal is of importance in a medical point of view, both on account of its medicinal, and of its poisonous properties.

Of its various medicinal preparations, it will be sufficient here to notice three. The acetate, or "sugar of lead;" the solution of an acetate of lead, or goulard's extract; and the lead plaster. The acetate of lead is used both externally and internally. In the former case, in the proportion of from one to five or six grains to the ounce of distilled, or rain water, it forms one of the best cooling lotions; it may also be used slightly warm, either simply, or with the addition of one or two drachms of laudanum to the half-pint. The weaker solutions of sugar of lead, one or two grains to the ounce, are often used as an eye-wash, but are not so generally useful as zinc. Internally, sugar of lead acts powerfully as an astringent, and may be given in doses of from two to four grains, once in eight hours, in cases *of emergency*, by the unprofessional. It is generally made into pill with crumb of bread; often, quarter of a grain of opium is combined with it, and it is advisable to wash the dose down with a draught of weak vinegar and water. The few cases, such as abortion, in which, in *the absence of all medical assistance*, sugar of lead may be given domestically, are particularly noted when treated of in this work.

The solution of lead—*Liquor Plumbi*—is used in the proportion of about one drachm to the half-pint lotion. It ought to be known, that symptoms of lead-poisoning have been developed in consequence of the continued use of lead lotions to ulcerated surfaces.

Lead plaster is the most unirritating form of plaster we possess, and is preferable to diachylon on irritable skins; it is also the best in abrasions and bed-sores. Lead, when conveyed into the system in minute doses for any length of time, occasions serious constitutional effects, the most remarkable being palsy, and obstinate constipation, with colic.—See *Colic*. Persons such as painters, type-founders, &c.—see *Artisan*—who work with lead or its preparations, are peculiarly liable to be thus affected by it. The subject is sufficiently entered into in the articles above-mentioned. Another very fertile source, however, of the introduction of lead into the system in individual minute doses, but ultimately, by the accumulation of these, in poisonous quantity, is from the pipes in which water is conveyed for household purposes.* See *Water*.

The common use of lead or its preparations, in the arts, either legitimately or fraudulently, is not an unfrequent cause of disagreeable, sometimes of fatal attacks, in consequence of the metal finding its way into the body. The use of lead as a glaze to earthenware vessels, may prove a source of great injury, being liable to be dissolved off, especially when the vessels are new, either by fatty or acid matters.—See *Dripping*. Confectionary is sometimes coloured with the yellow chromate of lead, or with Turner's yellow or chloride of lead; or whitened by the most poisonous preparation of all, the carbonate of lead. Wine when sour has been sweetened by the use of litharge, or oxide of lead, and in consequence of this fraud, a fatal epidemic colic at one time prevailed in Paris. Wine is also sometimes accidentally impregnated with lead, in consequence of shot which had been used to clean bottles, having been left in them. Poisoning has occurred from this cause. New rum and cider are both apt to become impregnated with lead in the manufacture. Symptoms of colic have been brought on in persons living much in a room newly painted with lead colours. The white glazed cards, are made so by means of lead, and might injure children, who are apt to suck them at times if they come in their way. Many of the hair-dyes contain lead, and have caused injury.†

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* Very recently a distinguished medical professor was fatally poisoned in his own house from this cause. Hard water is not nearly so dangerous in this respect as soft, because the salts in hard water generally form an insoluble crust around the lead, and prevent it being injuriously acted on by the water.

† Putty powder, so extensively used in many glass works, for the polishing of glass, is a fertile source of lead poisoning. Workmen employed in making brass taps are also subject to it, lead being mixed freely with the metal which they use.

When the causes of lead poisoning act slowly, from the smallness of the quantity taken in at once, the symptoms are generally those described under *Colic;* but when the dose is large, it quickly brings on painful colic, vomiting, and extreme depression. In such cases, the best measures to be pursued until medical assistance can be procured, would be the administration of vinegar in the first place, and in six or eight minutes after, an emetic of half a drachm to a drachm of sulphate of zinc, or some other sulphate, such as Epsom salts or glauber salts, in quantity proportionate to the lead swallowed. The vinegar in the first place converts the lead into one of its least poisonous salts, and the one most easily decomposed by the sulphates.

The accumulation of lead poison in the system, is in many cases denoted by the existence of a bluish line along the margin of the gums, at their junction with the teeth, and is a sign which should always be looked for when any suspicion exists.*

Refer to—*Artisan—Colic—Constipation—Litharge—Palsy—Water, &c.*

LEAMINGTON.—"The climate of Leamington," says a resident physician, "is more mild and equal than that of the greater part of the inland watering places; it is neither exposed to sudden gusts of wind, nor to the frequent rains which a mountainous neighbourhood so constantly attracts.

"Of the springs, the most used is the Old Well; the following are the constituent ingredients in a pint of water:—

	Grains.
Muriate of Soda - -	40·770
Sulphate of Soda - -	40·398
Muriate of Lime - -	20·561
Muriate of Magnesia -	3·266
	104·995
	Cubic Inches.
Carbonic Acid - - -	2·103
Azote - - - - -	0·537
Oxygen - - - -	0.075
	2·715

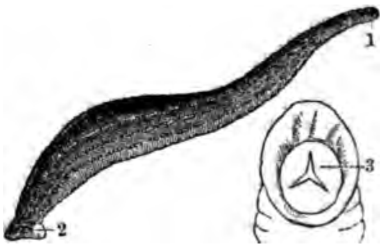
The mineral springs of Leamington may be recommended for similar complaints as the Cheltenham waters, particularly stomach derangement without inflammatory complication, hepatic obstruction, acne, and other eruptions about the face, as also in chronic, gouty cases, especially when constipation of the bowels co-exists."

LEECH.—The general appearance of the leech it is unnecessary to describe, the soft, ringed body being common to all the tribe. Two species only, however, are recognised in this country as fit for medical purposes; these are each distinguished by six greenish yellow chain-like stripes disposed down the length of the animal on the back and sides, the belly being, in the one, dirty yellow spotted with black, in the other, greenish olive and unspotted. The former of these species of leech, is found sparingly in this country, but occurs throughout northern and central Europe.

Leeches fit for medical purposes are said, by Dr. Royle, to abound in India: many of those now used in this country are brought from Hamburg, where they are collected by the merchants from different parts of the continent. The former of the two species mentioned, that with the spotted belly, is often known as the "brown leech;" the other, unspotted, as the "green leech."

The narrowest extremity of the leech—fig. A, 1—is the sucking mouth, the broader, is simply provided with a sucker—2—by means of which the animal attaches itself to any substance. The mouth is furnished with three "mandibles,"—fig. A, 3—the edges of which are set with minute teeth, by means of which the animal perforates the skin, after it has been sucked up, by a sawing action; the mandibles also, probably, keep the edges of the wound asunder, and form a sort of tube through which the blood passes. The invaluable properties of the leech as a local abstracter of blood are sufficiently well known; at the same time, these are often, in a measure, neutralized, by unskilful and ignorant management in application. When leeches are required, it is always better to be provided with more than the number thought requisite, in case, as often occurs, some cannot be made to fasten. When persons can choose their own leeches, the readiest mode of selection is, to take a number up in the hand, and gently to close it upon

A



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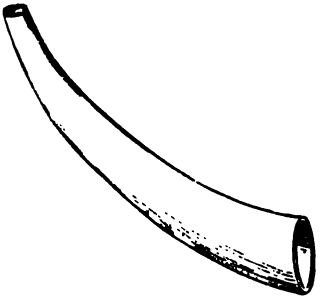
* Advanced cases have generally the accompanying wrist drop—See Appendix.

them, the strongest and most vigorous of the animals will contract themselves into a tolerably firm ball: the same may be done just previous to application. Some persons recommend leeches to be removed from the water in which they are kept, about an hour before they are wanted, being in the meanwhile laid upon a towel. The part to which leeches are to be applied, must previously be thoroughly cleansed with warm water, and when they are put on by the order of a medical man, it is, in many cases, better to have the space *within which they are to be fixed, marked out with ink*. Many methods of applying leeches are recommended, but none, perhaps, is so generally applicable, as confining them within the proper space, by means of an inverted wine-glass; in situations where this cannot be done, they may be put on individually by hand, holding each one by the larger end, till it has fastened, by means of a piece of cloth. In some situations, such as the interior of the mouth, a leech glass—fig. B—made to enclose a single leech, is convenient. When leeches have fastened, they should be allowed to suck perfectly undisturbed, resting on the smooth skin, or some smooth surface; if they hang down upon hair, or any rough material, they are apt to get fidgetty, and to drop off too soon. After leeches have come off, it is in most cases desirable to encourage further flow of blood, and for this purpose, hot poultices of bread or bran are most useful; in situations and circumstances where the moisture is objectionable, pieces of soft linen or calico, made quite hot, will answer very well, applied, folded two or three times, upon the place. In children, and some persons who bleed freely, but little encouragement is required, the difficulty often being to stop the flow of blood.

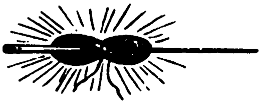
B



The possibility of this occurrence should always be kept in mind when leeches are applied to such persons, and, as a rule, they ought always to be *placed over a bone against which pressure can be made*, and never, unless for some very cogent reason, upon such places as the neck or abdomen; most of the cases of fatal bleeding from leech-bites in children, have probably occurred from want of attention to the above precautions.

When bleeding from leech-bites continues longer than is thought necessary, it may generally be stopped by placing a small pad of folded lint over the wound, and keeping up pressure with the finger for some time, provided there is the bone underneath to press against; when the bleeding seems to be arrested, the little pad may be kept in its place by one or two strips of adhesive plaster. If the simple pad appears insufficient, it may be soaked in a strong hot solution of alum. Even should there be no bone underneath against which pressure can be made, the above plan may succeed, but it may not, in such cases, it is often recommended to pass a pointed piece of caustic into the wound; but this is not a very efficient plan, and the pain it causes, by making a child cry, increases the tendency to the flow of blood. In an extreme case, a sewing needle passed through the wound from side to side, and wrapped about with a thread—fig. C—will stop further loss of blood; at the same time, the author must add, that he never found a case resist pressure well and carefully used. Such cases ought, of course, to be attended to by a medical man, if possible; but at a distance in the country, it would be better for a mother even to use the remedies stated, than to let her child bleed to death. Any other astringent remedies may, of course, be tried, if they are procurable.—See *Astringents and Styptics*. A wire or skewer, heated to a white heat, has been employed for the purpose, being thrust into the wound.

C



It ought further to be remembered, that even after leech-bites have ceased to bleed in children, they may, especially under the influence of warmth, burst out again, and fatal consequences have ensued, from children being placed in bed after leeching, and not being looked at during the night; they have become completely drained of blood. On this account it is always desirable, when it can be done, that leeches should be *put upon children in the fore part of the day*, and also, that examination should be made from time to time after the operation is over, to see that all is right: if it is night, a light should be burned in the room. It is not only the immediate consequence of excessive bleeding which is to be dreaded, but the unnecessary loss may make all the difference between a child struggling through an illness or not.—See *Blood and Hemorrhage.*

In a few individuals, the application of leeches is apt to be followed by inflammatory swelling of the skin, resembling erysipelas; of course this is an obstacle to their use on slight occasions; the swelling may be subdued by the lead lotion, cold or warm, as most agreeable to the feeling of the patient.

There is often considerable difficulty in getting leeches to fix where and when they are wanted; this may arise from various causes, the leeches may be sickly, or torpid from cold, or may have been recently used, or, as they are rather sensitive, the skin may be unclean, either from its own perspiration, &c., or from applications, such as embrocations, &c., which have been used to it. It is vain to attempt to apply leeches if this is the case; the skin, therefore, must be made thoroughly clean, and if there is hair on the spot, it must be shaved off clean and smooth; as a further inducement, a little cream, sugar and water, or blood, may be put on the skin. If cold is thought to have rendered the leeches inactive, their immersion for a quarter of an hour in water—temperature 70°—will be the best remedy; the addition of a couple of table-spoonfuls of porter to the half-pint of water will not unfrequently make them more lively.

If it is wished to detach a leech before it has finished sucking, it must not be pulled off; a few grains of common salt sprinkled on its head, will cause it to drop off very quickly. When leeches come off, it is the common practice to put them upon a plate of salt, which makes them disgorge the blood they have sucked; this is better done, by putting them into a little, not very strong salt water, which is equally effectual, but does not injure them as the salt in substance is apt to do. After the greater amount of blood has been thrown up under the influence of the salt, the leech should then be "stripped," that is, its tail end being held firmly between the thumb and finger of the left hand, the animal is to be drawn between the thum and finger of the right, nearly up to th head; by this means it is freed from th blood, and is sooner fit for use. Bloo which has been drawn by leeches, affor no guide to a medical man like that tak by the lancet, it therefore need not, as often done, be kept for his inspection. Aft the leeches have been stripped, they shoul be put into some fresh water, which wi require changing twice-a-day for the fir two or three days, afterwards, only ever four or five days.

The great expense of leeches renders important that the best means of preservin them, and of rendering them, if possibl again quickly ready for use, should b known.

They are best kept in good sized wide mouthed jars or bottles, half filled wit rain or pure spring water, covered at to with gauze, or some such material, an having at the bottom a little clean san or gravel on which the creatures can ru themselves, and so clear the skin of th slime which naturally covers it, but whic they cannot get quit of in a vessel wit smooth surfaces. The temperature of th water in which leeches are kept shoul never get below 50° Fahr.; the water shoul be changed every ten days; the place i which they are kept must be airy and fre from strong odours. Of course dead o sickly leeches should be removed at onc from the healthy ones.

It has been stated, that leeches whic have been used, may be rendered in a few days as active and useful as ever, by dissolving a little white sugar in the water, and renewing this solution twice, at intervals of twelve hours, and twice afterwards at intervals of a day. Dr. Christison says "I have tried this plan, and found that th same leeches drew blood three times a intervals of three days, with scarcely an diminution of activity, and without a deat among them." Another method recommended is,—after stripping—"to put them into a vessel with half an inch of sand a the bottom, and containing water, with tw tea-spoonfuls per quart of French whi wine; and to change the liquid daily ti the fourth day, when pure water is to b substituted." With respect to the choosin of leeches, the following remarks of D Christison are important:—"The gorgin of leeches is a more common fraud than th substitution of spurious species. They a known by being less velvetty in their co less flat when pressed, and by presenting little tumour when squeezed between th fingers from the head to the tail. Leech which have been used are often sold for unused, or 'virgin' leeches. These are best known by putting them on a white cloth, and dusting their fore-part with finely-powdered salt. In thirty seconds a little blood will be emitted, but not a particle, if the leech be quite fresh."

The greatest inconvenience connected with leeching, even when well managed, is the uncertainty of the amount of blood taken; but generally it may be calculated, that the application of each good leech should, on the average, including what the animal itself draws, and what flows afterwards, amount to about half an ounce.

The great expense of leeches* and other considerations, have given rise to many attempts to make an artificial substitute, but none have as yet been fully successful. Kidston's artificial leech is the most recent invention, and is said to be efficient; it might be worth the attention of the emigrant and others.

Leeches applied to such places as the nostril, mouth, or ears, occasionally get beyond reach, and find their way into the stomach or bowel. The best remedy, and one which should be used without delay, is strong salt water, either swallowed or injected into the bowels—this quickly kills the animal.

LEEK,—as an article of diet, does not generally agree with persons of weak digestion. It is most wholesome when blanched like celery, and stewed.

The vapour from boiling water poured over leeks is sometimes used as a popular remedy in piles. The leeks are cut up, and put in the pan of a night-chair, or in a chamber utensil, on which the person sits.

LEG.—Swelled-leg, or white-leg, as it is sometimes named, is one of the most troublesome of the disorders which are apt to follow child-birth. It is inflammation of the veins connected with the lower extremity. The symptoms of swelled leg may commence within the first two or three days after delivery, or not for some weeks. There is more or less fever, and the parts about the groin and thigh feel hot, stiff, and painful, swelling commences, and extends over the whole limb, which, however, does not change colour, being perhaps paler or whiter than usual; at this time the pain is often very severe. After a time, these symptoms are ameliorated; but the limb remains for long swollen, painful, and comparatively useless.

The above, it need scarcely be remarked, is a disease which requires proper medical assistance as soon as possible; in the meantime, leeches and fomentations and poultices to the parts about the groin and thigh, will be at once the best and the most soothing treatment; the bowels being regulated either by mild aperients or clysters, and opium given, if the pain becomes severe: for this purpose, ten grains of Dover's powder, with two of calomel may be given at bed-time. Blisters are often used, but as troublesome ulcerations are sometimes apt to form, their application should be left to medical judgment. Continued friction with simple oil is of much service. During convalescence, bandaging, friction, the salt water douche, and strengthening remedies and diet will be requisite; but these must be left to the regulation of the medical attendant.

THE LEG—the portion of the inferior extremity between the knee and the ankle—is formed of two bones—fig. A. The larger or main of the leg—1—is named the tibia; the smaller, or "splent" bone—2—the fibula. The upper broad portion of the tibia—3—forms part of the knee-joint—see *Knee*—but the fibula does not; at the lower end of the leg, however, both bones are required in the formation of the ankle-joint—see *Ankle*. These bones may be broken together or separately; fracture more generally occurs below their middle than above.

A

Refer to—*Fracture*.

LEMON.—This well known fruit, and sick room luxury, is cultivated chiefly in southern France, in Italy, Sicily, Spain, &c. The best lemons are smooth on the skin, and have a thin rind; if packed in newly-slaked lime in closed vessels, lemons may be pre-

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[*] It is an amusing illustration of change in the modern practice of medicine, that the hospital expenses throughout the country for leeches can now be reckoned by pence, where formerly they amounted to pounds.

served good for a considerable time. The rind of the lemon, and the agreeable essential oil derived from it, are chiefly used in cookery and confectionary. The juice of the fruit, which owes its acidity to citric acid, is used as the most agreeable medium for the formation of effervescing draughts; the proportionate quantity required to be used with alkaline carbonates will be found under article *Effervescing*. Its use in the formation of lemonade is familiar to all. — See *Cookery*. Until lately, the chief, direct medicinal use of lemon-juice was in the treatment of scurvy—See *Scurvy*—but recently, it has been introduced by Dr. Owen Rees as a remedy in rheumatic fever, and there are many testimonies to its value in this painful, and often-tedious affection. The author has reason, from his own experience, to speak favourably of its remedial power in the above painful disease. Lemon-juice is not only a curative medicine in scurvy, but it is also a preventive; and it should, therefore, form part of the "sea-store" of all who are going a long sea-voyage. The juice may be procured at a moderate price from confectioners in large towns. The best method of preparing it for keeping, is to add about one-tenth of spirits of wine, to separate, by straining, the jelly-like matter which coagulates in consequence, and then bottle for use. "Salt of lemon," which is sold for removing the stains of ink or iron, is no preparation of lemon at all, but is a salt of oxalic acid: the name might lead to serious mistakes.

LENITIVE ELECTUARY.—See *Senna—Confection.*

LENS.—Crystal lens. See *Eye.*

LENTILS—belong to the pea tribe, and are used as food. The Egyptian lentil, known, when in the form of meal, as the revalenta, or ervalenta Arabica, is not only nutritious, but possesses aperient properties, which render it, in some cases, a valuable auxiliary to treatment if it agrees with the stomach.*

LEPROSY.—See *Skin, diseases of.*

LETHARGY—an unnatural tendency to sleep, is closely connected, as to cause, with languor and debility, and approaches apoplexy in character. It may arise from the opposite causes of over-fulness of blood, or from deficiency of circulation in the brain, from nervous exhaustion of that organ, or from actual disease in it, such as tumour or abscess. The lethargic state may also arise from an impure or poisoned state of the circulating fluid, such as precedes an attack of British or bilious cholera, or diarrhœa, or is a consequence of suppression of urine. It may also, of course, be the consequence of the action of narcotic drugs, or of alc intoxication. These latter conting should be kept in mind in the ev lethargy coming on suddenly: in s case, the treatment, with precau recommended under article *Apoplexy*, s be adopted—modified, of course, in degree, on account of the milder cha of the disorder. In the aged, espe lethargy is always to be regarded wit picion; but in any case, the *cause* sho investigated by a medical man as so may be.

Refer to—*Apoplexy—Biliary Diso Debility—Languor—Palsy, &c.*

LETTUCE.—Two kinds of lettu used, the common garden or edible le and the stronger or medicinal lettuce. botanical name of lettuce, "Lactuca," lac milk, is given on account of the juice which exudes from the plant cut: this milky juice turns brown, and on exposure to the air, and is then lactucarium, or "lettuce opium," fro narcotic properties, in some degre sembling those of opium. The milkin the juice of the lettuce, and its na properties, are not fully developed unt period of flowering approaches; the however, possesses them more or less, stages of growth.

As an article of diet, lettuce is in general use, and with most persons, well, though some find it, in common uncooked vegetables generally, dis digestion; others find its narcotic prop —even in its mildest condition—inc nient. Lettuce eaten at night has bee recourse to successfully, amid other the celebrated anatomist Galen, as antidote to sleeplessness.

Extract of lettuce, or lactucariu lettuce opium might be used in dos from ten to fifteen grains, as a subs for opium, with this advantage, that it not confine the bowels: it is not, how by any means so powerful or certain action.†

LEUCORRHÆA.— See *Whites.*

LICE.—See *Acari.*

‡LICHEN.—See *Skin, diseases of.*

LIFE.—The word, here, is simply in its one sense of man's actual ma existence in this world: that exis which, however it may be regarded a the prelude of another and more p state, all persons of healthy mind ha instinctive desire to preserve—instin truly, it may be called at the present for the feeling with a large—a very la class, seems to rise no higher. It see protect from immediate, urgent, threa danger, but beyond that it appears not to go; and life is yearly, daily, hourly extinguished in this country, by causes which are perfectly under man's own control to prevent—by causes which it is utterly unworthy of intelligent and responsible beings should continue, or be allowed to continue, in operation amongst them. It is enough confirmation to reiterate the fact, that fever carries off yearly in Britain a larger number of victims than fell in the ranks of the allied armies at Waterloo; and that one-third of the children die before they reach the age of five years. As these tiny victims have been well called in a late number of a popular periodical, "drooping buds;" they languish and die in the unwholesome dwellings of city, town, and village. And this need not be; for, fearful as the loss of life now is, it is less considerably than it was a hundred, fifty, even twenty years ago; and might be much *lessened* still. It is enough to refer the reader to the case of the Dublin Lying-in-Hospital, mentioned under article *Children*, to demonstrate how quickly—how remarkably—the value of life may be increased by a few well-directed and comparatively simple measures. The whole science of medicine, surgery, the efforts of Hygiene or sanitary precaution, even the object of such a work as the present, is the preservation and prolongation of human life; and that it is not preserved nor prolonged to a much greater extent than it now is, cannot be for want of knowledge, at least amid the higher classes. Parliamentary Commissions, and "blue books," and sanitary publications of all kinds, have diffused—or ought to have—information respecting those sources from which the curtailment of life arises; but indifference, self-interest, prejudice, interferes, and the small band of those who would push forward the good work can scarcely make head "against the wind, against the tide" of opposition—can hardly stir the huge mass of inertness that *will* not move. At the same time, it is not the part of the people to wait till these things are wholly done for them; it may be, that the principles of a true political economy, renders the preservation of every man's life in the state, a duty, and a direct advantage to the community; but each man must in the matter act for himself as far as lies in his power. The preservation and prolongation of life can never be simply a selfish consideration; man does not live for himself alone. But if none can doubt that the duration and value of life might be extended far beyond what it now is, it is equally certain that it is much greater than it was formerly. A glance at the past in this respect may give hints for the future. One great cause for the short duration of human life among a barbarous or semi-civilized people, is the little value set upon it; hence, it is sacrificed for the most trivial reasons—and from the destruction of the weakly or unwished-for infant, so common, not only amid a savage people, but even among the comparatively civilized Chinese — to the abandonment of the aged parent on the prairie, by the North American Indian; or the destruction of adults in public war or private quarrel amid these nations generally, all tend to shorten human life. True, the wars and revolutions of civilized nations, even in Europe, do cost many useful lives, but their occasional action is not marked like the regular systematic cutting short of life in all its stages, which unceasingly goes on in uncivilized communities.

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* The ordinary meal made from pease is quite as good, and much cheaper than the vaunted Rev Arabica.

† Lettuce has been omitted from the British Pharmacopœia.

‡ Lichen Islandicus—See Iceland Moss.

As a nation rises in civilization, therefore, the lives of its members are in part prolonged, simply because they are not violently curtailed; other causes at the same time coming into action. Increased comfort of dwellings, and more effectual shelter from the weather, both by these and by clothing, more regular supplies of wholesome and better prepared food—all reduce the chances of disease and death. Improvements in the practice of medicine and surgery, more quickly and effectually alleviate the former when it does occur, and diminish the probability of the latter; and, lastly, for it comes last, increased—though far from sufficient — attention to hygienic and sanitary precaution, counterbalances in some degree, those unhealthy influences and combinations of circumstances which inevitably arise during, and advance with, the progress of civilized communities. Hitherto, the increase of the comforts of civilization, though in one mode it has tended to prolong life, has nevertheless, in some degree, balanced this advantage, by giving rise to other sources of disease. The wandering savages, or natives of thinly-peopled countries, if liable to suffer from privations and exposure, are nevertheless, in great measure, free from the fever-generating drain, and closely-crowded street or habitation; and in this and other similar ways it happens, that although the value or duration of life in a community ought to be a test of its civilization, the fact has not as yet assumed its full preponderance in the history of national progress. Ignorance of the laws of health, in the first instance, and obstacles to the carrying out of those laws in the next, have hitherto kept the average of life, in this kingdom at least, far below the average it ought to hold. Probably too, indifference as to the means of prolonging human life has partly arisen from the very common error, which supposes that the evil of premature deaths has some compensating advantage in removing a portion of surplus population; whereas, in the general case, it is not the surplus, but the valuable portion of life that is thus lost. If a boy dies at some period between ten and sixteen, his existence has been an absolute cost to the community, and he was but just approaching the period when he might have become a productive member of it. If a husband dies in the early years of his married life, he leaves as burdens on the world a widow or children, for whom, in the general case, if he had lived, he would have worked: "bearing out the fact, that a parish or country where life is precarious pays more poor-rates—has to support more unproductive members — than its neighbours."

Connected with these remarks, is the statement of Dr. Southwood Smith, made before the Parliamentary Commission, on the "State of Large Towns," "that the period of human existence, during which fever can alone be said to be prevalent, is from the age of twenty to forty; that is, the period of maturity—the most precious portion of the term of existence — that during which the individual is best fitted for all the duties and enjoyments of life—during which he is most capable of promoting the happiness of others, and of securing and of appreciating his own;" and fever is *the* fatal scourge of the ablest and most useful working members of the community.

The effect of the adjuncts of civilization in prolonging life, will best be illustrated by the following extracts from the Messrs. Chambers' most useful publication on "Sanitary Economy," by which is shown, how greatly the duration of life is extended, under favourable circumstances, how much it is diminished under the reverse.

Dr. Duncan, Officer of Health for Liverpool, says in his paper on the high rate of mortality in that town:—"Not the least striking result of the investigation, is the very high rate of mortality which we have found going on in the various districts; for while in Rodney Street and Abercromby Wards, with upwards of 30,000 inhabitants, the mortality is below that of Birmingham —the most favoured in this respect of the large towns of England—in Vauxhall Ward with a nearly equal amount of population, the mortality exceeds that which prevails in tropical regions. In Rodney Street and Abercromby Wards, 100 persons die annually out of 4162; in Vauxhall Ward 2350 persons are sufficient to furnish the same number of deaths, leaving an excess of 1812 persons engaged in furnishing additional deaths at this high rate of mortality. In other words, 177 persons die annually in Vauxhall Ward, for every 100 dying out of an equal amount of population in Rodney Street and Abercromby Wards."

In one of the Registrar-General's Reports two districts are compared with each other, one of twenty-five towns, another of seven counties. "The number of deaths in the former, from all causes whatever, was 51,492 while in the country districts it was 33,690 Yet out of this smaller number, the deaths from old age amounted to 4699; while out of the much larger amount of deaths in the town districts, the number that had survived causes of premature disease, to die of old age, was only 3525. In round numbers a seventh part of the country population has thus been allowed to run the natural course of their days, while only a twelfth of the town population have had the same good fortune to avoid the snares which disease and accident have laid for them. The following tables from a Sanitary Report of Mr. Chadwick's, shew the different value of life in the *different classes* of people in the same districts:—

No. of Deaths.		Average Age of Deceased.
	WHITECHAPEL UNION.	
37	Gentlemen and persons engaged in the professions, and their families - -	45 years.
387	Tradesmen and their families	27 ,,
1762	Mechanics, servants, and labourers, and their families	22 ,,
	STRAND UNION.	
86	Gentry and persons engaged in professions, and their families - - - - - -	43 ,,
221	Tradesmen and their families	33 ,,
674	Mechanics, servants, and labourers, and families - -	24 ,,
	KENDAL UNION.	
52	Gentlemen and persons engaged in professions, and their families - - - -	45 ,,
128	Tradesmen and their families	39 ,,
413	Operatives, servants, labourers, and families - - -	34

We here find that in some communities —such as Whitechapel Union—there will be differences so great between the average duration of life in the different classes, that those born in the large house of the professional man or independent gentleman, live rather more than twice as long as those born in the crowded houses of the small alleys which ramify hither and thither round it. It is a melancholy truth, resting on evidence only too strongly overwhelming, that the lives of the poorer classes, who inhabit the crowded districts of large towns, are liable to be shortened by a variety of causes."

And yet these things need not be; there is no possible reason why the duration of life in a district in which it is low, should not be greatly raised—the amount in some degree of course depending upon the nature of the district. Neither is there a reason why the standard should not be elevated in every district. That such will be the case at some future day there can be little doubt, nor is it unreasonable to suppose, that there is yet a "good time coming," in which the value and duration of life will be extended greatly beyond what it is at present—greatly beyond perhaps what we at present can imagine—when science and benevolent exertion have corrected the errors and retained the goods of an advanced civilization; when sources of disease from without are removed, and when man has learned that health is better than great riches, and ceased to offer the former, either his own, or that of worn down work-people, at the shrine of mammon.

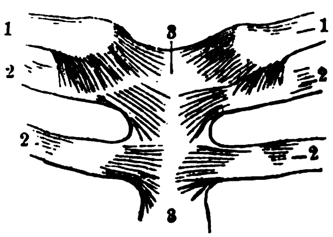
LIFTING CHILDREN is a subject on which a few words are highly requisite. It is really surprising to see in what a cruel and dangerous manner children are often lifted about, not only by their nurses, but by their mothers; and the evil results are very commonly brought before medical men, in the shape of sprains, separations of "epiphyses"—see *Epiphysis*—dislocations, and even fractures. When a heavy child is perhaps seized by the hand or arm, and swung over a gutter, or the like, the wonder is, not when injury results, but that it does not always result from the practice. Among boys, and even by those who are old enough to know better, there is a trick of lifting children or boys, by the hands placed under the chin and at the back of the head: this is most dangerous—dislocation of the neck, and instant death has been the result.

LIFE-ASSURANCE.—The security of a sum of money to the family or to the survivors of an individual whose death involves loss or diminution of income to those survivors, may become an important consideration, when the chances of death or recovery in severe illness are nearly balanced—when the tranquillity or disturbance of the mind, may make that balance incline to the one or to the other side. The racking thought of a wife and family left without provision, may drive away *the* sleep that would precede amendment—may give the last jar to the sinking nervous system. In this remedial point of view only, can this important subject be alluded to here.*

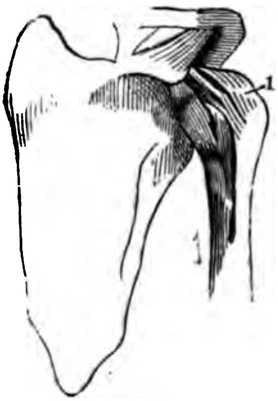
LIGAMENTS are white glistening bands of inelastic fibrous tissue, which retain the different bones in contact at their points of junction. There is also a yellow fibrous tissue, which in some places is called a ligament, but which is extremely elastic.

It would answer no good purpose here to enter into a detailed account of the ligaments. The example—fig. A—which represents the ligaments which bind the collar-bones—1, 1—and upper ribs—2, 2—to the breast-bone—3—and the example—fig. B—which exhibits the "capsular ligament"—1—which envelopes and connects the

A



B



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* The Accidental Insurance Companies are highly to be recommended to those, the nature of whose occupations or amusements, exposes them to much personal risk.

bones at the shoulder-joint, will sufficiently illustrate the use and position of these connecting media.

In their ordinary condition, the ligaments are not very sensitive; but when, in consequence of a strain of the joint, or "sprain," they are over-stretched, they become acutely so.

LIGHT.—"The prime work of God."—We know that the great source of light is the sun, and that we have sources of artificial light. We know that it is light by which we are enabled to take cognizance of the colour, size, shape, and position of various bodies, we know that this light is subject to laws which it is in our power to trace; but we cannot frame a definition of the agent itself. To enter into a consideration of the optical properties of light would be out of place here; its effects as a stimulant on animal life and development are extremely important. The stimulant action of light not being of such obvious universal necessity to vital action as that of heat; nor its effects and influence so prominently marked, its full power as an excitant upon animal and vegetable life has not been until lately, sufficiently well recognized, although every day it is becoming more so. The effect of the deprivation of the stimulus of light in producing blanching, or etiolation, in vegetables, has long been practically applied, and the effect of the absence or diminution of the stimulus on animal development and health, though comparatively little is certainly known respecting it, is being more attended to in consequence of the present sanitary movement. Dr. Edwards, whose experiments upon the influence of light are well known, has remarked, that persons who live in abodes excluded from the free access of light, are apt to produce deformed children. It has been stated on the best authority, that the cases of disease on the dark side of an extensive barracks at St. Petersburg, have been uniformly for many years in the proportion of three to one to those on the side exposed to strong light. Humboldt has attributed the absence of deformity amid the Caribs, Mexicans, Peruvians, &c., to constant exposure of the body at large to strong light. It is now, therefore, a received fact, that a free supply of light is almost as necessary to health as fresh air or pure water; it is, too, a fact, which should not be lost sight of with respect to the laying out of dwellings.[*] The powerful stimulant action of light upon the eye, is evinced by the fact, that strangers in the arctic regions are liable to suffer from inflammation of that organ produced by the glare of reflected light from the snow, and that from the same cause, the natives of those regions suffer from snow blindness. Light, however, exerts different effects according to its colour; as well known, bright white, yellow, or red lights are much more apt to injure the eye than those of a blue or green tinge; when, therefore, persons find exposure to the former coloured lights injure the sight, it is usual to protect the eye by the use of glasses of a bluish shade.

Refer to—*Amaurosis—Blindness—Eye, &c.*

LIGHTNING.—Injury or death from lightning, appears principally inflicted through affection of the nervous system; although, at the same time, severe and extensive wounds are not unfrequently produced. Burning, on the other hand, is not occasioned by the electric fluid itself, so much as by the clothing, which is generally set on fire. Persons who are stunned, but not killed, by lightning, generally remain in a state of insensibility for some time, the breathing being slow and deep, the muscular system relaxed. In such cases, it will be proper to use means for preserving the animal warmth, which has a tendency to become depressed, to keep up artificial respiration, as recommended under article *Drowning*, to use mustard-plasters to the spine and pit of the stomach, to administer, from time to time, a little sal volatile in water, if the patient can swallow—if not, to give a warm clyster containing half an ounce of turpentine—or to use such other means as are recommended under the articles *Drowning* and *Carbonic Acid*, which may seem adapted to the case. It is a common idea, that persons who have been killed by lightning do not stiffen, and that the blood remains fluid: it is erroneous. It would, considering how often the fact is reiterated, seem almost superfluous to point out the ordinary precautions which those, who chance to be exposed to a storm of thunder and lightning, ought to adopt; but not a summer passes without lives being lost from sheer ignorance. Harvest labourers and others *will* persist in sheltering under trees[†] people *will* continue to put up, even iron, umbrellas in the midst of a thunder storm, and mowers walk unconcernedly home with their scythes over their shoulders. If an individual is overtaken by a thunder storm in a place where trees abound, he should avoid them as much as possible; a thorough soaking will be rather a protection than otherwise. If, on the contrary, the position is on a moor or wide plain, where the body is the highest object, lying down is the safest procedure. In any case, metallic objects, such as sickles, scythes, &c., being laid aside at a considerable distance. Under shelter, the most hazardous position appears to be in a draught or current of air, such as between a door and window, this seeming to exert considerable influence upon the course of the electric fluid.

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[*] Every day shows the importance of building dwelling houses in our large towns to which the light as well as the air shall have access. Nothing is more favourable to the development of Scrofula than a dark dwelling.

[†] In an open field it may be well to stand at some distance from a tree, but not under it.

LIME—is one of the alkaline earths, formed by the union of oxygen gas with the metal or metallic base calcium; in its various forms of carbonate, such as marble, chalk, limestone-rock, &c., it is very widely distributed over the globe. Quicklime is formed by expelling the carbonic acid from one of these carbonates, by means of heat. Its appearance, when freshly burnt, is familiar to all; it quickly, however, changes, if freely exposed to air and moisture, attracting both carbonic acid—for which it has a strong affinity—and water, and being again converted into a carbonate of lime.

Lime is used in medicine in its pure form; it is used as a carbonate in the form of chalk—See *Chalk*—as chloride of lime—See *Chlorine*, &c. Pure lime is given in the form of lime water; this is made by putting some freshly-burned and newly-slaked lime into a bottle, and filling to the top with water, agitating slightly; when the lime subsides, it leaves the water above perfectly transparent, and holding a certain amount of lime in solution. When any of the lime-water thus formed is withdrawn for use, all that is necessary is, to fill up quite to the top again with fresh water, giving the bottle a shake, and to *cork tightly*. This may be repeated for a considerable time before the lime requires renewal. Lime-water is used as an antacid by some individuals, even habitually. It is taken in doses of from half-an-ounce to three ounces, generally in, or along with milk, which it renders lighter, and more likely to agree with the stomach, whilst the milk covers the somewhat acrid taste of the lime[*] If lime-water is exposed to the atmosphere, a pellicle forms on its surface, and it quickly becomes turbid, from attracting carbonic acid, the carbonate thus formed being less soluble than the lime itself. The same thing will be seen to take place more quickly if an individual propels the breath through some lime-water in a glass, by means of a quill, the water at once becomes turbid, demonstrating, at the same time, the presence of carbonic acid in the breath. If, however, the breath be kept passing through the lime-water for some time, it again becomes transparent, in consequence of the additional amount of carbonic acid re-dissolving the carbonate of lime, and making it a bicarbonate. In many hard waters, lime exists in solution, in this form of bicarbonate of lime—See *Water*—The property possessed by quicklime of absorbing carbonic acid, renders it valuable in cases where, such as in old wells, this noxious gas exists and requires removal.—See *Carbonic Acid*—*Bedroom*—Burns from lime are not uncommon; in such cases, the best application is vinegar and water, or some other acid, if vinegar is not at hand—freely applied; the acid in this case converting the caustic lime into a harmless substance. The same treatment is to be pursued in the event of lime getting into the eye, the vinegar or acid being of course more largely diluted than when used to other parts. In any of these cases, the after-consequences, such as ulceration of the skin, or inflammation of the eye, must be treated as recommended in burns generally—See also *Eye*.

LINCTUS.—Medicine made into a thick syrupy consistence. The form of linctus is not often prescribed in the present day.[†]

LINIMENT. — An embrocation — See *Embrocation*.

LINSEED, or **Lintseed**,—the seed of the *linum usitatissimum*, or common flax, contains a fixed oil, well known by its name of linseed-oil, which is procured from the seeds by pressure; the seeds also yield, when boiled, or infused in boiling water, a thick, almost tasteless, mucilage. Linseed-oil was formerly more employed in medicine than it is at present, its chief use now, being in the formation of the carron-oil, used by some in the treatment of burns. This is made by agitating together equal parts of lime-water and linseed-oil.—See *Burns*. The infusion of linseed, or "linseed-tea," may be made in the proportion of half-an-ounce of the seed to a pint of boiling water—See *Infusion*. It is a cheap and very good demulcent remedy in coughs, and in irritation of the urinary organs. The meal of linseed is made by grinding the seeds, after the oil has been expressed from them; it is chiefly used for poultices.—See *Poultice*.

LINT—formerly old linen cloth scraped to give it a soft woolly surface, is now manufactured on purpose, of new material, and of good width and length, instead of the bits and scraps in which it used to be sold. Professedly, lint is made of flax or linen thread alone, but microscopic examination will often detect a considerable admixture of cotton fibre.—See *Dressing*. Taylor's new patent linen is thicker and more spongy than the other sorts, and, therefore, more suited for some purposes; it does not tear well. which is a disadvantage.

LIP.—The lips owe their colour to their extreme vascularity, and to the thinness of the skin by which they are covered, and their sensitiveness to a more than usual supply of nerves.

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[*] Carrara Water, which is just effervescing Lime Water, but containing more lime than ordinary Lime Water, will be found useful in some cases, especially of affection of the bowels.

[†] A good common Linctus for ordinary coughs, hoarseness, &c., is made with equal parts of Syrup of Poppies, and Oxymel of Squills—dose, a tea-spoonful two or three times a day, when the cough is troublesome. A very valuable Opiate Linctus to soothe the irritating cough of consumption, is made as follows:—Muriate of Morphia, one grain; Rectified Spirit, half a drachm; Simple Syrup, one ounce—dose, a tea-spoonful three times a-day.

The colour of the lips is closely connected with that of the blood, and also depends upon the vigour of its circulation. When the blood is poor and deficient in red globules—see *Anæmia*—the lips become pale; when, again, from failure of the heart's action, as in fainting, the blood is not circulated properly, the lips also become pale; when, from disease, the blood does not undergo its proper changes, the colour of the lips, instead of being red, inclines more or less to purple. The lips—particularly the lower—are apt to become the seat of cancer in old people; especially, it is said, in those who have smoked much from a *short* pipe. A continued sore upon the lip that will not heal, in an old person, should be examined by a medical man; if it is such as to require removal, this cannot be done too soon.

Refer to—*Hare-lip—Lips sore.* See *Skin.*

LIQUORS.—See *Alcohol—Stimulants, &c.*

LIQUORICE and LIQUORICE ROOT.—Liquorice root, which is long and creeping, is procured from a plant belonging to the leguminous, or pod-bearing tribe, a native, chiefly, of Spain and of southern Europe, but cultivated in England. The extract of the root, known as hard "extract of liquorice," or "black sugar," or "Spanish juice," is used chiefly as a demulcent remedy in coughs and irritation of the throat, in irritation of the stomach and bowels, and of the urinary organs. Many persons take it largely, and find it useful, in heart-burn. It does not disorder the stomach, or cause thirst, like common sugar, even when used in considerable quantity. The extract is also employed to cover the taste of nauseous drugs, such as aloes, &c., and is added to demulcent drinks generally. It also forms the basis for various kinds of lozenge.

A soft extract of liquorice is used by druggists in the composition of pills, and the powder of the root is used for the same purpose.

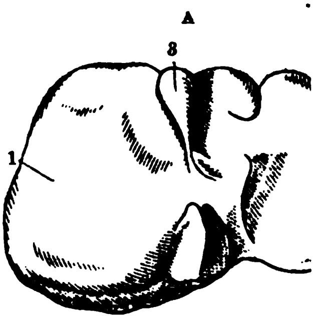
[*] LITHARGE—is an oxide of lead, which occurs in the form of reddish white scales. It is sometimes used to adulterate wine.[†] See *Lead.*

LITHONTRIPTIC.—An old term applied to medicines which were supposed to possess the power of dissolving or disintegrating urinary calculi.

Refer to—*Urine.*

LITHOTOMY.—The operation of cutting for the stone.

LIVER.—The liver is the largest organ in the body, weighing, on the average, in man, about four pounds; it occu
upper part of the abdomen.—see
—just beneath the diaphragm or m
which it is attached, or, as it wer
by what are called the ligaments
liver. By anatomists the liver is
into various "lobes;" but here it
cient to point out the general divi
a larger, or right lobe—fig. A, 1



smaller, or left lobe—2—the forme
ing the right "hypochondrium," t
extending far into the left. T
bladder—fig. A, 3—is seen occup
fore part of the under side of the r
of the liver, in which aspect it is rep
in the cut. The liver is made up
bers of minute lobules, about the
millet seed, which are compose
smallest or "capillary" branche
blood vessels, of the cells which
separate the bile from the blood, a
ducts which convey the secreted
the larger common ducts; these co
the one main duct of the liver,
which the bile flows, either into
bladder, or into the digestive cana
The bile—see *Bile*—is formed f
blood which has circulated thro
organs within the abdomen, an
passes through the liver on its wa
the heart; in this passage, the bile
rated from it, thereby purifying t
and affording a secretion which pe
important part in the processes of d
and probably in the body at lar
intimate connexion, however, of t
by means of the blood, with t
organs within the abdomen, and pa
with the stomach, renders it e
liable to be disordered; and, inde
are few cases of disorder of the st
bowels, in which the liver is not

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[*] LITHIA is one of the most fashionable remedies for gout; either as Lithia Water, which m
aerated, like soda and potash water, or as the Carbonate of Lithia—dose, 3 to 6 grains, or the
Lithia—dose, five to ten grains.

[†] Litharge Ointment has been used in small-pox to prevent pitting. It is not superior to
for this purpose.

degree implicated, either primarily or secondarily. Probably, in no way is the connection between the stomach and liver more strongly manifested, than by the manner in which the latter is affected by the inordinate use of alcoholic liquors; in this case, the spirit being absorbed directly from the stomach by the veins, and conveyed directly to the liver, acts very powerfully upon it, particularly if the form in which the alcohol is taken be that of pure spirit, such as gin or brandy; in this case, if the use of the spirit be persevered in, a low form of inflammation is excited in the substance of the gland, which ends in the formation of what has got the name of the "gin-drinker's liver"—a disease, indeed, of which the only traceable cause is the excessive use of spirituous liquors, and which proves fatal to many in this kingdom annually. Its symptoms and treatment could not profitably be laid before unprofessional persons, but its cause should be impressed on all. In its advanced stages, it generally causes dropsical swelling of the lower extremities, and of the abdomen.

Inflammation of the liver is attended by the usual feverish symptoms which accompany inflammation of internal organs generally, and must be managed on the same principles—see *Inflammation*—until proper advice can be obtained. The pain varies considerably in this affection, being usually very acute when the surface of the liver, with its covering membrane, is implicated, but less so, or of a duller character, when the substance of the gland is the part involved. As is the case in liver affections generally, pain is often felt somewhere about the shoulder blades, most frequently in the right, but sometimes in the left, or between them, extending even to the back of the head. Inflammation of the liver is much more frequent in warm climates than it is in this country; and in the former, is very apt to end in the formation of abscess. The disease, of course, requires the most active treatment of a medical man; but it should be known to those going to a hot climate—see *Climate*—that this, like other liver diseases, is much more likely to attack the free-living than the temperate man. For further information respecting liver-disorder, the reader is referred to articles, *Biliary Disorder*—*Climate*—*Gall-stone*—*Jaundice*, &c.

LOBELIA, or "Lobelia inflata," is a plant native to, and very commonly found, in North America. It was one of the medicines of the Indians. It has been used by medical men in England as a remedy in asthma, and, in some instances, proves of service; but this is generally the case when its emetic action has been exhibited. It is not a remedy, however, for unprofessional hands; for it may prove a powerful irritant poison. Lobelia has, within the last few years, acquired notoriety in consequence of its being the medicine of a set of quacks, in whose hands it has, in more than one instance, produced fatal effects, and been the means of subjecting them to legal proceedings and punishment.*

LOBSTER—like most shell-fish, is unfit for persons of weak digestion.

Refer to—*Fish*.

LOCHIA.—The "cleansings" after delivery.

LOCK-JAW—is the popular name for the first and partial symptom of a fearful spasmodic disease, known to medical men as *Tetanus*, in which, not only the muscles of the jaws, but the muscles of the body throughout, are, more or less, extensively thrown into violent spasm, so strong indeed, that the teeth or bones may be broken by it. The set of muscles most generally affected, after those of the jaws, are those of the back; the patient, by the spasm, is bent like an arch, so that the back of the head and the heels alone touch the bed†; occasionally the body is bent forward. The disease most frequently commences with a sensation of stiffness and soreness of the muscles of the neck and jaws; the latter become fixed, and the spasm extends more or less, over the body. It is needless to add, that this extensive cramp is attended with the most severe pain, which is also, in most cases, experienced severely about the pit of the stomach, being dependent, doubtless, on spasm of the diaphragm.

The most usual exciting causes of lock-jaw or tetanus, are wounds, especially of a punctured character, but in some persons, the very slightest injury is sufficient to develop the disease‡ in this climate, however, it is fortunately comparatively rare; in warm climates it is common; it is also liable to prevail among the wounded after battles, if exposed to much vicissitude of weather; indeed, cold will occasionally give rise to lock-jaw independent of injury. When lock-jaw arises from a wound, it shews itself in from four days to three weeks after the injury. It is a very fatal disease, the greater proportion of those affected by it dying; some, however, recover. Of course, as soon as practicable, a medical man should be called to a case exhibiting even the slightest tendency to lock-jaw after an injury; in the meantime, large, very large doses of opium in the *liquid* forms of laudanum, or of sedative solution, may be administered, even by unprofessional persons; they *may* mitigate the sufferings of this dreadful disease; commencing with from thirty to sixty drops of laudanum, the same doses, if they can possibly be swallowed, may be repeated at intervals of from half an hour to an hour, as long as the system remains unaffected by the drug: if the medicine cannot be given by the mouth, it must be by clyster. In addition to the above, the affusion with cold water may relieve. The patient having been taken out of bed, and a quantity of cold water dashed over the body, and down the spine, is immediately to be rubbed dry and replaced in bed—quiet sleep may possibly follow* Whilst the jaws are firmly closed, nourishment cannot, of course, be given in the usual way; a medical man will probably administer it by means of a tube passed into the stomach, either by the nose, or by mouth, passing it behind the teeth; until his arrival, should that be delayed, the administration of small clysters of meat broth will assist in maintaining strength.

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* The dose of the Tincture, and of the Ætherial Tincture is from ten minims to twenty; but it should scarcely be given but by a medical man, as it is apt to cause nausea and depression, being somewhat similar in its action to tobacco.

† The spasms are like those caused by a poisonous dose of Strychnine.

‡ Wounds of the hands and feet, and amputations at these parts for injury, are more commonly followed by lock-jaw, than wounds of the larger limbs, or of the trunk of the body.

Refer to—*Convulsion—Wounds, &c.*

LONGEVITY,—PROLONGED LIFE, it is well known popularly, is, in some respects, hereditary, the ages at which different members of a family usually die bearing a very near average to one another, even despite the influence of occupation, habits, and condition of life, although these, undoubtedly, exert considerable influence in determining the period at which the component tissues of one or more of the organs begin to give way. Many tables and calculations have been made at different times, with a view of determining the extent to which the duration of life is affected by the circumstances in which individuals may be placed. The following table from Casper of Berlin, if it may not exactly apply to this country, shews, at all events, how greatly the average duration of life may vary in different classes:—

Of 100 theologians, there have attained

the age of 70 and upwards	42
Agriculturists and foresters	40
Superintendants	35
Commercial and industrious men	35
Military men	32
Subalterns	32
Advocates	29
Artists	28
Teachers and professors	27
Physicians	24

Another table, by a different observer, exhibits the difference of locality, as follows: the observations were taken from a French department:—

	Inhabitants to death annuall
Mountain parishes	38·
Seaside	26·
Corn districts	24·
Stagnant and marsh districts	20·

Refer to—*Age, Old—Life, &c.*

LOINS.—See *Lumbar.*

LONGING—is the term applied to t almost morbid craving for certain articles diet, with which some females *indulge* the selves during pregnancy; it is probably phase of hysteria. Under the circumstanc it is only right and humane to yield to the fancies in some measure; but when there any real or adequate reason for their bei debarred, it may be insisted upon, witho the risk of the consequences popularly su posed to follow.

LOSS OF BLOOD.—See *Hemorrhage.*

LOTIONS—are liquid applications, pri cipally composed of water, used either the skin or to the mucous surfaces, such the inside of the mouth or of the nostril The variety of lotions from plain water which is often a most excellent one—u wards, is very great. Lotions may classed as—1. Cooling; 2. Stimulatin 3. Astringent; 4. Soothing; and, 5. Sed tive. Of the first, water is an exampl either alone, combined with spirit, fro half an ounce to an ounce to the half-pin or combined with vinegar. The lead lotio —see *Lead*—is another example of the coo ing lotion, but in this case it is astringe at the same time. Water, with one-thi or one-half spirit of wine, applied to t skin by means of lint, which is covered prevent evaporation, is a good example a stimulating lotion. Very cold water, t lotion of sulphate of zinc or of white vitri in the proportion of from one to ten grai to the ounce of water, and other astri gents in solution—see *Astringents*—for the astringent lotions; the various prepar tions of opium; decoction of poppies; d coction of hemlock, &c., are soothing lotion the prussic acid lotion a sedative one.

The reader is referred to the vario articles, such as "Lead," "Zinc," &c.

LOW DIET—must necessarily be comparative term, influenced by the pr vious habits of the patient, but general it means the absence of all stimulants a animal food from the allowances—general of eggs also—and a diminished amount bread nourishment. Weak tea, bread, d luted milk, cocoa, gruel, arrow-root, sag and such-like preparations, generally cons tute the staple of low diet in this countr to these, however, the cooling fruits ma frequently be added. Half diet includ the above with the addition of puddings of milk and eggs, of broth, and it may be of a small allowance of meat.—See *Abstinence—Fasting—Hunger, &c.*

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* An ice-bag might be applied to the spine—See foot-note, article—Ice.

LOZENGE,—a hard compound of sugar and gum, which contains either simple flavouring, or some medicinal agent. The system of giving medicine in the lozenge form, has fallen into comparative disuse; it is, however, in some cases, a useful and agreeable method, particularly in affections of the throat, such as relaxation, when it is desirable to apply the medicinal agent gradually. In children, the lozenge form of medicine is useful, either for the administration of ipecacuanha, domestically, or of morphia, under medical sanction. Such lozenges, however, ought to be carefully made so as to contain a certain definite dose —in the case of morphia the twenty-fourth of a grain—and the amount of the dose should be stamped upon the lozenge. The manufacture of lozenges is now almost entirely transferred from the apothecary to the confectioner. Lozenges are sometimes adulterated with what is called "mineral white," in other words, Plaster of Paris: it cannot be regarded as a harmless addition.[*]

LUMBAGO—is rheumatism of the large muscles of the back, and like rheumatic affections generally is often extremely painful, the pain being increased by stooping, and again when the person attempts to rise. This peculiar aggravation of the pain by these movements, is generally stated to be the distinction between this disease and painful affections of the kidney. In lumbago, nothing affords more, if so much relief, as hot moist applications to the back—see *Heat*—continued from twelve to twenty-four hours at a time, and followed by the soap liniment combined with one-sixth part of turpentine, rubbed well into the back and loins. Ten grains of Dover's powder, with a couple of grains of calomel, given at bed-time, and followed in the morning by a dose of castor-oil or infusion of senna, will expedite the cure. Whilst the person is confined to bed under the influence of the hot applications to the back,[†] it will be advisable to give warm diluent drinks tolerably freely. In a severe or obstinate case of lumbago, the "thermal hammer" of Dr. Corrigan—see fig., *Counter-Irritation*—might be used as directed; in such cases, however, the safest plan is to have medical attendance, if possible. Should the urine be scanty or high coloured, ten grains of carbonate of potassa, with a tea-spoonful of sweet nitre, may be taken in a wine-glassful of water twice a-day, with advantage. Persons liable to attacks of lumbago, should wear a flannel belt round the loins.

Refer to—*Rheumatism.*

LUMBAR.—Belonging to the loins.—The term is frequently used in connection with abscess. In children of weak and scrofulous constitution, abscess in the loins, or "lumbar abscess," is apt to occur, and is often connected with disease of the vertebræ, or bones of the spine. Continued complaint of pain in the back, with any awkwardness in walking, particularly if accompanied with failure of the general health, should awaken suspicion, and give occasion for the child being examined by a surgeon. Lumbar abscess may occur in adults.

LUMBRICUS.—A worm.—Applied to the large round worms[‡] which occur in the intestines.—See *Worms.*

LUNACY.—See *Insanity.*

LUNAR-CAUSTIC.—NITRATE OF SILVER.—See *Silver.*

LUNCHEON.—A kind of intermediate meal, and therefore sometimes an unnecessary one. The English labourer has his "lunch" between breakfast and dinner, and again between the latter meal and supper; the English of the higher classes, particularly if their time is not well occupied, are apt to make luncheons a kind of dinner—a meal of animal food and stimulants, which, if superadded to dinner, is certainly unnecessary, and therefore productive of disorder. Either the luncheon should be made a *bonâ fide* dinner at an early hour, or it should be a meal without animal food—provided, of course, that an additional amount of animal nutriment is not considered necessary by a medical man, as a remedial measure. Fruit is generally more wholesome at luncheon than in any other part of the day.

LUNGS.—The organs of respiration. The lungs are two, each occupying its own side of the chest—fig. A, 1, 1—the left being rather the smallest, on account of the greater space taken up by the heart on the left side. The latter organ is situated in the space—fig. A, 4—between the two lungs which are separated from one another by a middle partition. Air passes into the lungs by means of the windpipe, or trachea —fig. A, 2—to the top of which is fixed the larynx, or organ of voice; at its lower extremity, the trachea divides into two branches, or bronchi, of unequal length, one for each lung; these bronchi on entering the lung subdivide into branches, and these again into still smaller tubes, until after continued division and subdivision, they end in the air-cells. These air-cells are

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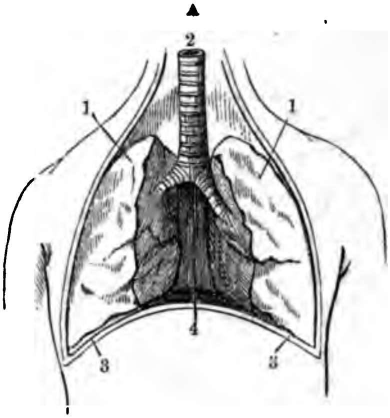
[*] For an account of the new Lozenges introduced into the British Pharmacopœia—See Appendix, article Lozenge.

[†] Nothing is better than the old woman's plan of putting several folds of flannel over the back and applying a smoothing iron as hot as it can be borne—"Ironing the back."

[‡] See Appendix—article, Santonine.



minute membranous cavities, on the membranous walls of which the blood circulates in a network of veins, in such a manner as to be brought into intimate contact with the air which is drawn into the lungs at each inspiration; nothing, indeed, intervening between the blood in the veins, and the air in the air-cells, but a membrane so thin that it allows the transpiration of the gases and vapour, which takes place as the blood becomes purified by means of this air contact. In consequence of their structure being adapted for the admission of air into numberless minute cells, the lungs feel spongy when pressed between the fingers. Those who are curious on the point, will learn more from five minutes' examination of the lungs and windpipe of a sheep or calf, in a butcher's shop, than from any description. In these, however, the mode of death, by bleeding, gives the lungs a much paler colour than their natural one. The tubes, the air-cells, the blood vessels, &c., of the lungs are held together by "cellular" tissue, and the entire organ is enveloped by a membrane—the "pleura"—which covers its surface, and is thence "reflected" to cover the inner surface of the ribs of the chest; in this way forming a shut pouch, or sac, the inner surfaces of which are in contact, and these being in the healthy state perfectly smooth, and moistened with a lubricating fluid, they glide over each other in every motion of the chest. The trachea, and the bronchi at first, are composed of incomplete "rings" of cartilage, connected together by an elastic tissue; the former tube—the windpipe—as generally known, occupying the forepart of the neck, and lying in front of th gullet.—See *Neck*.

The larynx, or organ of voice, which placed on the top of the windpipe, exten to the base of the tongue; its situation often strongly marked in thin men, esp cially if somewhat advanced in life, wh it forms the prominence popularly call "Adam's apple." This prominence caused by a cartilage which forms a ma portion of the body, or box, of the laryn Into the composition of this wonderful i strument of articulate and vocal soun various other cartilages, ligaments, muscle &c., enter, and the whole is lined by a co tinuation of the mucous membrane of th mouth, which after passing through th larynx, lines the trachea, or windpipe, a follows the branchings of the bronchi. Th cavity of the larynx is divided by a co striction of a triangular form—the glott —and is protected from injury by a hea shaped cartilage—the epiglottis—whic especially in the act of swallowing, wh the larynx is drawn upwards, complet closes the opening.—See *Throat*.

From the above slight sketch, the gener reader may derive some idea of the impo tant organs of respiration. To recapitulate situated at the base of the tongue, and protected from injury by the cartilage of the epiglottis, is the larynx, constricted in the centre, and ending in the trachea, or windpipe, which, descending in front of the neck into the chest, divides into the right and left bronchi; these, entering their respective lungs, divide and subdivide, till the minute branches enter the air-cells, on the thin walls of which the blood circulates in a network of veins, and undergoes purification by absorption of the oxygen of the atmosphere, whilst it frees itself from carbonic acid and watery vapour.

The act of respiration is partly involun tary—that is, goes on, as during slee independent of any exercise of the will; is, however, as all know, capable of bein to a certain extent, controlled by the wil this being, doubtless, a necessary adju to the power of the utterance of sound. Th process of respiration is essentially effect by means which enlarge the capacity the chest: these means are the vario muscles attached to the ribs, and whic by elevating them, increase the diamet of the chest from before backwards,— *Chest*—and also the diaphragm and musc of the abdomen, which, by their downwa and outward motions, increase the capaci of the chest from below; the enlargeme of the chest by these agencies, either combined or separate action, has the eff

g the air to rush in, or to be sucked
chest, as it is into a pair of bellows.
vity was empty, it would rush into
s, it rushes into the spongy disten-
gs, and distends *them*, it may be,
in some degree by the action of the
emselves. The air having been
wn into the chest by an active
it, is immediately thereafter ex-
y a comparatively passive one; the
uscular movement ceasing, the ribs
and regain their position, by their
ght and elasticity. The movements,
both of inspiration and expiration,
ncreased—"forced"—by the will;
his case, other muscles are called
m, and those usually employed in
ess are more strongly exerted. It
ecessity for these forced efforts in
matic, which, after frequent repe-
ives the peculiar curve of the
s so often observable. The average
of respirations in a minute varies
en to twenty-two in different indi-
and even in the same at different
The end of the process of respira-
it is, the change undergone by the
a consequence of its exposure to
eric air in the lungs—has been suf-
entered into in articles *Aëration—*
Circulation, *&c.;* it is therefore
ary to repeat it here.

assage of the air into and through
gs, gives rise to certain definite
perceptible to the attentive ear
closely to the outside of the chest.
ounds vary but slightly in healthy
als; consequently, any deviation
em is indicative of disease, expe-
rnishing the link which enables the
n to pronounce upon the nature
disorder, from the nature of the
r from its entire absence, which
ondition occurs, either when the
endered so solid by diseased action,
cannot penetrate its tissue, or when
lensed, pressed together, by the pre-
fluid within the chest. Moreover, it
t, that organs like the lungs, which,
natural healthy state, are distended
, must, when the side of the cavity
which they are contained is struck,
a somewhat hollow sound; but that,
he lung become solid, or the cavity
less filled with water, the sound,
of being hollow, will be dull or flat.
rther evident, that the power of
ing sound must be altered by the
alterations in the structure of the
nd that the voice must sound dif-
to *the ear applied to the chest*,
g to these alterations. These brief observations will, perhaps, convey to the general reader, some idea of the means of judgment, and of the principles on which they depend, which the physician avails himself of, when he goes through the—to the unprofessional—somewhat mysterious-looking process of physical examination of, or "sounding," the chest.

The narrowness of the triangular chink in the larynx, through which the air passes, always renders disease of this organ a matter of anxiety and of danger, for that small opening cannot be obstructed for three or four minutes, without death ensuing.

The LARYNX is liable to be obstructed from swelling of its lining membrane, either from inflammation or other cause, from spasmodic contraction of its muscles, or by foreign bodies accidentally introduced into it. It is also liable to ulceration. Inflammation of the larynx, or laryngitis, though comparatively an infrequent disease, is a very fatal one when it does occur: it is remarkable from having been the cause of death to General Washington. Laryngitis is usually the result of cold; in Washington's case it was caused by the snow, during a storm, lodging about the neck. In one case under the author's care, it arose from a labourer having incautiously thrown aside his neck-handkerchief whilst warm with work, but at the same time exposed to a March east wind. The symptoms of laryngitis are those of general feverishness, with pain in the organ affected, pain on swallowing, hoarseness, and hoarse, dry, ringing cough; it is, in fact, a disease in the adult, in many respects similar to croup in the child, and even more dangerous; it is, too, an affection which calls for the exercise of the most energetic and best-directed medical treatment, as soon as it can be procured. But for the same reason, it is of the highest importance that no time should be lost, even whilst waiting for that aid, and that some properly-directed means should be at once resorted to. First, from half-a-dozen to two dozen of leeches, according to the strength of the patient, should be applied to the throat and upper part of the chest; or, if leeches are not available, from six to twelve ounces of blood are to be taken from the back of the neck by cupping. Tartrate of antimony, in eighth-of-a-grain doses, is to be repeated at intervals of from one to two hours, *at first*, and calomel given in four-grain doses every four hours, with a quarter of a grain of opium in every, or every second, dose, should purging ensue. Hot bran-poultices are to be kept constantly to the throat, the feet put in hot water, and advantage may be derived from breathing the steam of hot water, the patient, of course, being kept perfectly quiet in bed. These measures will do all that can be done until the arrival of a surgeon; he may do more, and, possibly, if the case becomes extreme, may think it requisite to open the windpipe.

Closure of the larynx, or rather of its narrow portion, the glottis, may be the result of swelling, extending to it from the throat; partial chronic swelling, causing permanent, or at least continued, loss of voice, is not an unfrequent and not a dangerous affection, and ulceration within the larynx, also causing loss of voice, is met with in consumption.

Of the spasmodic affections of the larynx, that mentioned under the spasmodic croup of childhood, is perhaps the most characteristic, but the researches of Dr. Marshall Hall make it evident, that in the nervous convulsive diseases, such as epilepsy, spasmodic closure of the larynx takes place, and that in aggravated cases, relief—by proper hands—may be given by the operation of opening the windpipe. When death does occur from any of the causes mentioned, it is by suffocation, or "asphyxia," just as if the person had been drowned or hanged; it may also take place in consequence of foreign bodies, either getting wedged in the larynx itself, or in the gullet behind it; when, if of large size, they act by their mechanical bulk and compression. Foreign bodies are usually drawn into the larynx itself, in consequence of the person, often a child, laughing or crying whilst the substance or fluid is in the mouth. As all know, even the smallest crumb or drop of fluid getting into the larynx, or as it is popularly called, "going the wrong way," immediately, in consequence of the irritation of the extremely sensitive lining membrane of the organ, causes violent cough, and perhaps choking spasm; if the foreign body is large, those symptoms are severe in a corresponding degree, and may, by their severity, prove the patient's safety, by expelling the offending substance; should this not be effected, and if it is too large to pass through the larynx, death inevitably and quickly ensues; sometimes, however, the body passes through the larynx into the bronchi, as happened in the well-known instance of the half-sovereign in Mr. Brunel's case. When this occurs, the more severe suffocative symptoms subside, but irritating cough continues, with the constant risk of driving the foreign body back into the larynx. In such cases, unprofessional persons can do little or nothing, and unless proper surgical assistance is quickly procurable, there is much chan
of a fatal termination; it would always
right, however, for some person to pass t
forefinger as far back in the throat as po
sible, under the chance that the obstructi
might be within reach; and also to ado
the remedies for choking laid down und
article *Gullet*.

The various inflammatory affections
the air-tubes, such as Croup, Bronchiti
Catarrh, Influenza, &c. &c., are treated
under their separate heads; inflammati
of the lungs falls under article *Inflamm*
tion; and other diseases of the respirato
organs, such as Consumption, Asthma, &
&c., are assigned to distinct articles in t
DICTIONARY.

Refer also to—*Aëration*—*Blood*—*Chest*—*Circulation*, *&c. &c.*

LUXATION.—A dislocation.—See *Di*
location.

LYMPH.—The fluid contained withi
the lymphatic or absorbent vessels.—Se
Absorbents. The term is also applied
limpid exudations from the body, such
vaccine lymph, adhesive lymph, &c.

MACE—the outer covering, or, in bot
nical language, the "arillus," of the nu
meg, and one of our pleasantest and mo
generally used spices, may, when take
too largely, produce determination of bloo
to the head, and intellectual disturbanc
The characteristic properties of mace d
pend upon an essential oil.—Refer to—
Nutmeg.

MADEIRA.—Of this much frequente
and most important resort for invalid
Sir James Clark thus speaks:—"Madei
has been long held in high estimation f
the mildness and equability of its climate
in which respect it will well bear co
parison with the most favoured situatio
on the continent of Europe."

Compared with the best of these: "I
is warmer during the winter, and cool
during the summer; there is less differenc
between the temperature of the day an
that of the night; between one season an
another, and between successive days. I
is almost exempt from keen, cold wind
and enjoys a general steadiness of weath
to which the continental climates a
strangers. During the summer, the almo
constant prevalence of north-easterly wind
especially on the north, and the regul
sea and land breezes on the south side
the island, maintain the atmosphere in
temperate state. The sirocco, which occu
two or three times, at most, during th
season, and then continues only for a fe
days (seldom more than three), sometim

raises the atmosphere in the shade to 90°. With this exception, the summer temperature is remarkably uniform—the thermometer rarely rising above 80°. In consequence of the regular sea-breezes, the heat is not so oppressive as that of the summer in England often is. Close sultry days are little known in Madeira, and there is neither smoke nor dust to impair the purity of the atmosphere. Such, indeed, is the mildness of the summer at Madeira, that a physician, himself an invalid, who resided for some time on the island on account of his health, doubted whether this season was not more favourable to pulmonary invalids than the winter.

* * * "The spring at Madeira, as at every other place, is the most trying season for the invalid, and will require even there a corresponding degree of caution on his part. In March, winds are frequent; and April and May are showery;" but Sir James adds, "on the whole continent of Europe there is no place with which I am acquainted where the pulmonary invalid could reside with so much advantage during the entire year as in Madeira."

MADEIRA WINE is one of the strong dry wines, and contains from twenty to twenty-two per cent. of spirit. It generally contains more acid than either port or sherry.

MADNESS.—See *Insanity*.

MAGNESIA,—one of the alkaline earths, is largely used in medicine, in the form of the pure or calcined magnesia; also in the form of the carbonate, and of bicarbonate, which latter, being soluble, constitutes the fluid magnesia of the shops. In combination with sulphuric acid, it forms sulphate of magnesia or Epsom salts.—See *Epsom Salts*.

The principal use of magnesia is as an antacid in acidity of the stomach and bowels, it at the same time,—provided it meets with acid,—acts as a gentle aperient; it is often combined with rhubarb, Epsom salts, &c. The effectual manner in which magnesia neutralises acid in the stomach, and thereby relieves heart-burn and other uneasy sensations, has probably been the reason for its extensive use, and certainly for its abuse among dyspeptics generally, whereby much evil has resulted; for there is no question, that the continued use of magnesia as an antacid, greatly impairs the digestive powers; moreover, if used in the form of calcined magnesia, or of carbonate, should it not encounter sufficient acid in the alimentary canal, to convert it into a soluble aperient salt, it is apt to accumulate, and, if taken regularly and largely, to collect into and form concretions in the bowels: on this account, persons who *will* take magnesia habitually, ought to be careful to clear out the bowels thoroughly, at intervals, by means of a dose of castor-oil; the same rule being observed with regard to children if magnesia is given regularly to them. These remarks do not apply to the comparatively pleasant and efficient preparation of the bicarbonate, or fluid magnesia, which has greatly, and with advantage, supplanted the other preparations.

Fluid magnesia, in doses of from half an ounce to two ounces, may be taken either alone, or in milk,—the latter mode being convenient for children; or it may be given as an effervescing draught, with lemon juice. It has been already observed, that magnesia only acts as an aperient when it meets with acid; the author has found a dose of magnesia, taken after the garden rhubarb used as food, act very well as a gentle aperient.

Of the solid preparations, Henry's calcined magnesia is the best. Some kinds of magnesia, when kept for a time in mixture with water, are apt to form the whole into a solid mass.*

Refer to—*Children—Indigestion—Piles, &c.*

MAGNETISM, ANIMAL.—See *Appendix*.

MALARIA.—See *Ague*.

MALE FERN.—See *Fern*.

MALIC ACID.—The peculiar acid of the apple.

MALIGNANT,—a term applied medically to various diseases when they assume a fatally severe, or intractable form, such as malignant sore-throat, &c.

MALT LIQUOR.—See *Ale and Beer and Porter*.

MAMMA.—The female breast.—See *Breast*.

MANNA—is the saccharine exudation from a species of ash tree, and is chiefly brought from Sicily and Southern Italy. Flake manna is the variety used in this country, but it is not employed by any means to the same extent as formerly. It is gently aperient, but as two ounces are requisite for a dose, it is likely to disorder the stomach. There are many good substitutes.

MARASMUS.—WASTING—ATROPHY.—See *Atrophy*.

MARMALADE.—The well-known preserve, made from the Seville orange, is by some regarded as a stomachic.

MARRIAGE.—The religious and lawful union of the sexes. Various observations go to confirm the fact, that the married state is conducive both to health and to prolongation of life; thus it has been ascertained, that married women at the age of twenty-five have, on the average, thirty-six years of life before them, whilst unmarried women of the same age have not, on the average, more than between thirty and thirty-one years: that in men, the mortality between the ages of thirty and forty-five, amounts, on the average, to eighteen per cent. in the married, but to twenty-seven per cent., or one-third more, in the unmarried; and, further, that at the age of seventy, whilst there remains alive but eleven bachelors out of every hundred, twenty-seven married men out of the same number may be expected to reach the three score and ten.

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* The Citrate of Magnesia, a granular, effervescing salt (See Appendix), is one of the most palatable preparations ever made, and is an excellent ordinary aperient. Magnesium wire, or wire of the metal magnesium, has lately attracted much attention from the fact that it burns with an intensely brilliant and beautiful white light, which it is conjectured may prove useful in Photography, Signals, &c., &c.

It has also been shown from statistical returns, that suicide is very much more frequent among the unmarried than the reverse. On the score, therefore, of physical and mental health, independent of other considerations, marriage is advisable; of course its advisability, in individual cases, must rest on the relative position of the parties. Certainly, however favourable other matters may be, it is a great evil for parties to enter into the married state too early in life; the female especially, if she commences child-bearing early, that is before the age of two or three and twenty, cannot fail to suffer in her own constitution, and almost necessarily to entail the acquired debility upon her offspring. In the case of those who have family when advanced in life, the trial is less to their own constitutions, but should the father be aged, the children are not likely to be strong. The reader is further referred to articles *Disease, Hereditary, &c.*, for information respecting the influence which the health and constitution of the parent exerts upon that of the offspring.

As regards physical and mental development, it is an undoubted fact, that the mixture of races, or at least of families totally unconnected with each other, tends greatly to elevate the standard of both. It has been remarked by Humboldt and others, that in South America, the progeny of the negro and of the native Indian, are greatly superior to the progenitors on either side; the superiority of the Caribs to other American Indians has been ascribed to their latitude in inter-marriage with the surrounding tribes, and it is well known, that the Anglo-Saxon attributes the position of *his* race in the vanguard of progress, to the mixture of blood which has taken place, as a necessary consequence of the successive occupations of Great Britain by different races.

MARROW—is the fatty matter wl
fills up the centre of the shaft of the l
bones. As an article of diet, it posse
the same nutrient properties as the
generally.

MARSH MALLOW—is found on
continent, and frequently in England
marshes near the sea: it bears pale bl
red flowers on an upright stem; the le
are heart-shaped, cut at the edges, and,
the stem, are covered with soft, hairy do
The whole plant is mucilaginous, but
root is the part chiefly used; four ou
may be put into six pints of water with
ounces of raisins, and the whole redu
one-third by boiling; the mucilagin
decoction thus obtained, is to be strai
through calico before use.

Marsh mallow is much more used
France and Spain than it is in this coun
not only in decoction, but also as lozen
and syrup; it is, undoubtedly, a g
demulcent, but probably not superior
linseed or pearl barley.

The leaves of the common roadside mall
are often used in England by the poor, un
the name of marsh mallow, as an addit
to fomentations; it is, perhaps, needles
add it is a very useless one.*

MASTICATION.—The act by which
food is, or ought to be, reduced to a
mass before swallowing, by the action
the teeth, and by admixture with the sali
The importance of the proper performa
of this act has been pointed out in arti
"Indigestion." It has even been suggest
that the average of life at the present ti
exceeding that of former periods, is par
due to the improvements in dentist
enabling the aged to masticate their fo
more perfectly.†

Refer to—*Digestion—Indigestion.*

MATERIA MEDICA, (MEDICAL MA
RIALS).—Refer to—*Medicines.*

MATICO is the term applied to the lea
of one of the pepper tribe, a native of Sou
America; the drug has recently been int
duced as a powerful astringent in cases
bleeding; the leaves, especially, bei
lauded as a certain remedy in obstin
bleeding from leech bites. The author h
not found in his own trials of it, th
matico possesses any advantage over oth
astringents, and that which he used ca
direct from the importers.

MAW-WORM.—See *Worms.*

MEALS.—See *Breakfast, Dinner, &c.*

MEASLES is one of the eruptive feve
which most persons go through once in
lifetime, and generally during childhoo
the disease usually occurs as an epidemi
and is contagious. The first symptoms

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* The Pâtes de Guimauve or Marsh Mallow Lozenges are much in favour for common colds, hoarseness, &
on account of their demulcent properties.

† Nye's "Mincers" will be found a useful aid to proper mastication of the food.

measles are those of a feverish cold; there is shivering, headache, loss of appetite, and perhaps vomiting; the eyes look red, and, as well as the nose, furnish increased watery discharge; there is hoarseness and cough. On the fourth day of the disease, or in from seventy to eighty-four hours after the first symptoms of illness have shewn themselves, the peculiar eruption of measles begins to appear, generally about the forehead, then on the neck and arms, and thence extends to the trunk and extremities; at first the eruption shows only in red points, not unlike flea-bites, but these soon enlarge into rather broad, slightly purplish, crescent-shaped spots, which are just perceptibly elevated above the skin. At this period, the skin is hot, there is a good deal of general fever, with thirst, and much hoarse cough, with quickened breathing. After remaining out about four days, the eruption—first, of course, on the face—begins to decline, and by the seventh day, it has generally disappeared, leaving the skin slightly roughened, followed by separation of the cuticle in small scales.

Measles, however, does not always follow the same regular course; there may exist the constitutional symptoms without eruption; but a more common variety is, the characteristic eruption without any constitutional affection—this, however, affords no protection from future attacks of the disease. Again, measles may prevail, either as a very mild disease, scarcely requiring treatment, or it may be as a most malignant and fatal epidemic. The principal danger in ordinary measles arises from the affection of the chest, especially in very young children, many of whom die from this cause, particularly if the epidemic happens to occur during the prevalence of cold winds in spring, and if the children, as often happens among the poor, are insufficiently attended to. When measles occurs in its malignant, or putrid form, it becomes a fearfully fatal malady, carrying off numbers of children, in spite of the best-directed treatment.

In any case of measles, the safest plan is, of course, to have medical attendance; very many parents, however, in the humbler classes, when the prevailing epidemic is mild in character, take the matter in their own hands, and do little more than keep their children in bed for a day or two, if they do even that. There is no question that a mild attack of measles will get well without any treatment; but in even the mildest, ordinary care to guard against cold should be observed, this being, of course, requisite in proportion to the season of the year. If the attack be a smart one, the person should be kept in bed and moderately warm, allowed to drink freely of diluent, and especially of demulcent drinks, such as barley-water; the diet should consist of milk and farinaceous matters, cooling fruits, and such like may be allowed, the bowels at the same time being attended to, but not purged. Should the eruption of measles seem tardy in coming out[*] or come out small or insufficiently, or, after having shown itself, should it disappear again suddenly, and before the time of its regular decline, danger must be apprehended; the warm-bath is at once the safest and the best remedy; the child being kept in the water—temperature 98°—from ten to twenty minutes, according to age: in addition to this, to a child of five years old, a drachm or tea-spoonful of spirit of mindererus should be given in a little sweetened water every two or three hours, and warm drinks freely administered at the same time. A very pernicious practice prevails, especially in the country, among the poor, of giving children stimulants,—"to bring out the eruption," and also in the course of the disease; in Scotland whisky is given, in England cowslip wine is the most generally employed stimulant. It is perhaps scarcely necessary to add, that none but the most ignorant and prejudiced could be guilty of so dangerous a practice. In England there seems to be a popular prejudice in favour of the virtues of the cowslip in measles, and when the wine is not used, it is very common to find the infusion, or tea of the "cowslip pips" or flowers, given; this, of course, is perfectly innocent, and may be permitted. When the feverish symptoms in measles run high, it is commonly in connection with the chest-affection; in such cases, from four to six grains of ipecacuanha powder, and half a drachm of carbonate of potassa, are to be made into a mixture with three ounces of water, and of this, a dessert-spoonful given to a child of five years of age every four or five hours; in milder cases, ten or fifteen drops of ipecacuanha wine are to be given in the same way. Should, as often happens if the child has been permitted to take cold, symptoms of inflammation within the chest show themselves—see *Inflammation*—they must be treated as directed in the article on the subject, but in all such cases a medical man should be called. It must always be borne in mind, that measles do not bear much lowering treatment, and that blisters are apt to prove dangerous; a bran poultice is always a preferable application. An idea prevails, that persons affected with measles cannot be kept too hot; this is often a source of much mischief: certainly, cold is to be avoided, but free ventilation, with a moderate temperature—see *Bed-room*—is always the most advantageous. When measles assumes a malignant or putrid form, the case must be considered as eminently dangerous; in this form the eruption is dusky and purple, or rather, livid, the patient extremely depressed, the tongue dry and black looking; medical assistance as soon as possible, is, of course, indispensable, and even then, the hope of saving life is but small; nourishing meat broth, wine, or warm wine whey, must be given frequently, and those measures resorted to which are recommended under typhoid fever.

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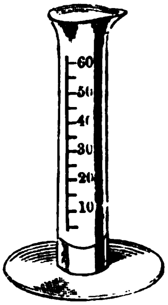
[*] When this is the case, and the child is affected by drowsiness, or anything indicating the undue effect of the fever poison upon the brain, relief will generally be at once afforded by immersing the body in hot water to which a little mustard has been added, while cold cloths are applied to the head.

Convalescence from measles requires much care, if the weather is at all cold, for the disease leaves a susceptibility to inflammatory chest-affection for some time. In children of weak constitution, measles, like the other eruptive fevers, is apt to leave a tendency to discharges from the ears, to weakness and redness of the eyes, &c.

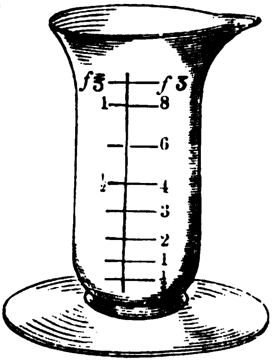
Refer to—*Inflammation—Catarrh, &c.*

***MEASURES.**—Two kinds of measures are used by the apothecary for smaller quantities of fluid, these are the drop or minim measure—fig. A—and the ounce measure—fig. B.

A †



B



The drop measure is, or ought to be cylindrical, as represented. It is graduate or marked with divisions equal to five o ten minims each, and may be made fo sixty minims or one fluid drachm only, o for one hundred and twenty minims or tw fluid drachms, or for a greater quantity A minim measure for sixty drops will b sufficient for domestic purposes. A mini by measure, contains a larger quantity o fluid than a drop; the latter, too, is liabl to vary in bulk according to the nature o the fluid, and of the lip of the phial or vess from which it falls; on these accounts, i would be desirable that the measured mini only should be used, but as the measur glass itself must necessarily be frequentl wanting; the drop is a more generally applicable mode of division. When the dose of drops, of any medicine, are measured in minim glass, one-fourth ought to be allowe for the greater bulk of the minim,' that i if the dose is twenty drops of laudanum b drop, by minim measure, it should be onl fifteen.

The fluid ounce measure glass is graduate as represented—fig. B—on the right side the perpendicular line into fluid drachm on the left side into fluid ounces; it may, course, be made of any size, from one ounc upwards.

The other fluid measures used by th apothecary in England and Scotland, a the pint which contains twenty fluid ounce and the gallon which contains eight pint in Ireland the pint is only reckoned at sixteen ounces. The following table of th apothecaries' fluid measures, also shews th initial letters, by which, for the sake brevity, these measures are distinguishe in prescription:—‡

Fluid.	Symbol.		
One gallon - -	C	=	8 pints.
One pint - -	O	=	20 ounces.
One ounce - -	℥	=	8 drachm
One drachm -	ʒ	=	60 minim
One minim - -	m		

Besides these regular measures, there a a variety of less accurate modes of measurement for medicine, used on account of the convenience; these are, the tea-spoon equ to about one fluid drachm, the dessert-spoo to double, and the table-spoon to four tim that quantity, or to half an ounce. Th wine-glass generally holds about two flui ounces, the tea-cup about one ounce more the breakfast-cup and tumbler about ha a pint each. These irregular modes measurement, however, are not only inconvenient, but they may, at times, be serious moment. Spoons and glasses mu vary greatly in size; what the poor call

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* **Measly Pork.**—It should be known that this expression—now, unfortunately, too much in use—h nothing to do with measles, but refers to a parasitic disease of the pig. Measly Pork, especially when eate in a semi-cooked state, is extremely apt to develop tape-worm in the human subject.

† A convenient minim measure may also be had in the form of a syringe, or pipette.

‡ The liquid measures remain unchanged in the British Pharmacopœia.

"meat-spoon" and consider a table-spoon, barely equals an ordinary dessert-spoon in calibre: again, one person will fill a spoon till it runs over, another scarcely more than half, so that in one way or another, it is a great chance whether the patient gets the quantity the medical man orders. To remedy these evils, glasses marked in table spoonfuls, and porcelain measures—fig. C. made only to hold a certain quantity, have been manufactured, and are certainly convenient when at hand; but by far the most certain method of apportioning the doses of fluid medicine, is by means of the moulded graduated bottles, now largely used; these being marked in fourths, sixths, eighths, &c., and the medicine being prescribed in these proportions, there is no further trouble; no spoon is required—a great saving to silver which is apt to be stained—and the medicine is poured directly into the cup from whence it is drank. These graduated bottles are now beautifully made by the York Glass Co., and are not higher in price than plain ones. A few of them would be found convenient in most houses.

C

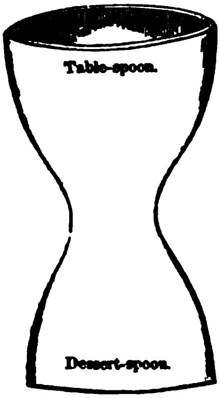
Table-spoon.
Dessert-spoon.

MEAT.—See *Beef—Flesh—Muscle—Mutton, &c.*

MECONIUM.—The dark olive-green discharge from the bowels of a newly-born infant.

MEDICINES.—Under this head will be included all that would come under the more correct designation of Materia Medica. This term, which literally means medical materials—that is, the various agents used in the practice of medicine—may appear somewhat technical in a popular work, but it is the most conveniently comprehensive, under which to include the enumeration of all those agents, whether medical or surgical, which *may* be used domestically. It is unnecessary here to give more than an enumeration, the agents themselves being sufficiently treated of in the various articles devoted to them, either classified or individually. The following list is meant to include whatever, either in the way of medical or surgical material, an intelligent emigrant, in a remote district, might, with reasonable care and ordinary common sense, safely employ; thus constituting a domestic materia medica, in its widest sense; at the same time it must be evident that, however desirable this latitude may be for the circumstances supposed, it is by no means requisite for those who are placed with greater facilities for procuring proper professional assistance; neither is it recommended that they should take advantage of it as a whole, but that each should select whatever may appear most suited to their own circumstances. The articles in the list to which the asterisk is prefixed, are such as may most readily be dispensed with, in most instances. Of course, the list includes but a portion of the medicinal remedies mentioned throughout the work at large, neither does it include other agents used in medical treatment, such as heat, cold, &c.

List of most generally useful domestic medicines:—

*Æther—either chloric or sulphuric.[*] To be kept in a stoppered bottle, tied over with bladder, or with sheet gutta percha.—Chloric æther, see Appendix.

Aloes—in the form of the simple drug.

Alum.—Burnt, in powder.

*Ammonia.—The carbonate of ammonia, to be kept in a wide-mouthed, stoppered, or well-secured bottle.

Ammonia.—The compound spirit of ammonia, or sal volatile, to be kept in a stoppered bottle.

Ammonia.—The acetate of ammonia, or spirit of mindererus.

Antimony.—The tartrate of antimony, or tartar emetic.

Antimony.—In the form of James' Powder.

*Arnica.—The tincture.

*Bismuth—Nitrate of, in powder.[†]

*Borax.—In powder.

*Calumba.—Root, and powder of root.

*Camphor.—In bottle.

Cantharides—or Spanish blistering fly. In the form of the common blister-plaster, or in the form of blister tissue, or of blistering fluid.

Castor-oil.

*Catechu.—The simple drug.

Chalk—Prepared.

*Chamomile Flowers.

Chlorine.—Disinfecting powder, Collins'; or solution of chloride of lime, Beaufoy's.[‡]

Cinchona Bark—The simple drug, or in the form of quinine.

*Confection—Aromatic, in powder.

Cotton Wadding—in sheets.

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[*] Chloric Ether is called Spirit of Chloroform in the British Pharmacopœia; or rather, Spirit of Chloroform is given as a substitute. The latter is about half the strength generally attributed to Chloric Ether—dose, ten to thirty minims. Sulphuric Ether is now called Spirit of Ether, in the same work.

[†] Called White Bismuth.

[‡] See Appendix, article—Disinfectants.

Cream of Tartar.
Creasote—in stoppered bottle, about two drachms.
Copper—Sulphate of—blue vitriol.
Diachylon-plaster — Adhesive-plaster: but not spread, if going to a warm climate.
Dill-water—For infants.
Extract of Henbane.
*Galls—whole, or in powder.
Gentian root.
Ginger.
*Gum Arabic—in mass and in powder.
Ipecacuanha—in whole root, and in powder.
*Iron—Sulphate of—green vitriol.
Iron—Tincture of muriate of, "tincture of steel."
*Jalap—powder.
Lead—Acetate, sugar of.
*Lemon juice.—Bottled, if for a sea voyage.
*Linseed meal.
Magnesia.—Calcined or fluid.
Magnesia—Sulphate of—Epsom salts.
Mercury.—Chloride—Calomel.
Mercury—with chalk—Grey powder.
*Mercury.—Red precipitate.
*Muriatic acid.—Spirit of salt, in stoppered bottle.
Mustard—in powder, in close canister.
*Myrrh—Tincture of
*Nitric Acid—Aqua fortis, in stoppered bottle.
*Oil—Camphorated.
Opium.—In powder.
Opium.—Compound tincture, with camphor—Paregoric.
*Opium.—In the form of Battley's solution, a small quantity, or in the form of muriate of morphia.
Opium.—In the form of laudanum.[*]
Pills.—Either in powder, ready mixed for making up, or made up with a small addition of glycerine to keep them soft, and kept in stoppered bottles.
    Blue pill in the mass, in a well-covered pot.
Pills.—Compound colocynth pill.
    Compound colocynth pill, with calomel.
    Compound colocynth pill, with blue pill.
    Compound rhubarb pill.
    Compound expectorant pill.—See *Pills*.
Potash.—Bicarbonate, in powder.
Potash.—Nitrate of—saltpetre, in powder.
*Potash.—Solution of—"liquor potassæ," in stoppered bottle.
Powders—Compound.
    Compound chalk, with opium.
    Compound powder of Ipecacuanha and opium—Dover's powder.
Rhubarb.—In root, and powder of root.
Rhubarb—Tincture of.
Scammony.—In powder.
*Squill.—In tincture.
Senna—leaves.
Silver—Nitrate of, or lunar caustic in stick mould, in a bottle, or with gutta percha holder.
Soda—Bicarbonate, in powder.
*Spirit of Wine.
Spirit of Sweet Nitre.
Sulphuric acid—Oil of vitriol, diluted to medicinal strength, and kept in stoppered bottle.
*Tartaric Acid.
*Turpentine Spirit of.
Zinc—Sulphate of, white vitriol.

To the above medicines, or such of them as are selected, it will be requisite to add a set of scales with apothecary's weights, a couple, at least, of "graduated" glass-measures, a Dutch tile, a bone spatula, and one or two iron spatulas or palette-knives, a filtering funnel or tun-dish, and a moderate-sized mortar and pestle of Wedgewood ware. The above may be said to be the necessary articles of the domestic laboratory, and it is advisable, that they and the medicines should be included in a chest or bo
properly constructed for the purpos
Where expense is not too great an objec
strong, glass, stoppered bottles[†] will be foun
quite the best receptacles for the variou
medicines, wider mouthed ones being use
for the pills and powders, and narrow on
for fluids. In addition to the above requ
sites, the following will be found convenien
additions for all, but especially in the ca
of emigrants:—A measure graduated f
doses, a few bottles of various sizes, fro
half-a-pint downwards, *graduated*, that i
marked into parts, such as fourths, sixth
&c., phial corks, filtering or blotting pape
and a few cut papers for powders, a gla
rod for stirring.

The above-mentioned articles may an
ought to be included in a thoroughly fur
nished medicine chest; and those wh
would be completely equipped, should als
provide the surgical materials mentione
below. All these, however, add to th
expense, and as there are many person
whether emigrants or others, who eithe
cannot or do not wish to incur the cost
providing so amply, but yet who woul
desire to keep beside them a stock of th
most efficient medicines, and those mo
likely to be required on emergencie
an emigrant's medicine chest has bee
manufactured by Mr. Hooper, of Pall Mal
which is calculated to contain, in the mo
compact form, a stock of selected medicine
with the means of dispensing them, such a
scales, measures, &c. The chest is entirel
constructed of japanned tin, this materia
being better calculated to resist the effect
of climate, and the attacks of insects, tha
wood, and at the same time occupyin
much less space; indeed, the entire ches
measures barely eight inches in length, an
five in width, and the same in depth, an
is to be sold stocked, at a cost of 30s., whic
will place it in the power of most.

A complete medicine chest, in the f
sense of the word, cannot certainly be pr
vided when the object is to furnish o
fitted with selected medicines, of the b
quality,—more essential than quantity
great variety,—at such a moderate price,
will make it generally accessible; but,
course, those who can afford it, and
desire a more amply furnished store,
have it constructed on the same princ
as the smaller and cheaper article.

In the case of emigrants especially,
author would advise those who are p
viding a medicine chest, to make themse
well acquainted, previous to purchas
with the probable requirements of the

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[*] Chlorodyne—see Appendix—is decidedly one of the most valuable forms in which an opiate may be
for many cases, and would form a useful addition to the medicine chest.

[†] When corks are used the fluids are apt to evaporate or work out, and so make the inside of the
wet and dirty.

mate and situation to which they are removing, or which they are likely to pass through; thus, for instance, quinine would be a much more indispensable article for the settler in some parts of America, where ague prevails, than for the Australian emigrant; or sulphate of zinc, for eye wash, would be an omission not to be supplied in the medicine store of the voyager upon the Nile, or as another example, persons going to hot climates must not take their adhesive plasters ready spread. By reference to the articles on the individual medicines mentioned in this work, the requisite information on these points will be gained, it is unnecessary, therefore, to detail it here.

To the surgical department belong,—Lint and old linen; oiled silk or oiled calico, or thin sheet gutta percha; bandages; scissors; pins; gold-beater's leaf, &c. Instruments, properly so called—see *Instruments*—must entirely depend upon the contingent circumstances, present and probable, and upon the inclination of the individual. Indeed, so much depends upon these, that it is impossible to lay down any uniform system of domestic materia medica; but it is trusted that the foregoing enumeration will be some guide in the selection. At the same time, the author would strongly advise parties, either resident in this country, or going abroad, to avail themselves, when possible, of the aid of a medical friend, or adviser, when furnishing the domestic laboratory. They will thus be put in the best way of getting what they want, *good* of its kind: this is essential, for the money had better be kept in the pocket, than wasted upon cheap and worthless drugs;[*] they will, too, have some guarantee that when a good price has been given, a good article has been procured.—See *Drugs*.—Further, although there are certain general remedies which none can err in providing, there may be others more especially adapted, either to the constitutional tendencies of the individual, or family, or, in the case of emigrants, to the nature of the climate, and of its peculiar diseases, to which they are about to remove. These are points on which a medical man only, can give proper advice; and few are so friendless as not to be able to get it—indeed, the author knows well that none need want advice on these points; the members of the medical profession will always give, and give it freely, under such circumstances. This article is little more than an enumeration of our domestic remedies, the plan of the work rendering it necessary that the information connected with each should be given under the individual heads, and to these the reader is referred in particular, as well as to such articles as *Bed-room—Dressing—Drugs, &c.* Indeed, the reference may be said to extend to the work at large.

In accordance with the plan laid down at the commencement, whenever doses of medicine are given, they are, unless it is otherwise specified, such as are suitable for an adult; the following table is generally considered a sufficient guide in the apportionment of the doses to the different ages:

For an adult—

Suppose the dose to be one or 1 drachm[†] ʒ i

Under

1 year	the dose will be	$\frac{1}{12}$	= 5 grains	- gr. v
2	"	$\frac{1}{8}$	= 8 grains	- gr. viii
3	"	$\frac{1}{6}$	= 10 grains	- gr. x
4	"	$\frac{1}{4}$	= 15 grains	- gr. xv
7	"	$\frac{1}{3}$	= 1 scruple	- ℈ i
14	"	$\frac{1}{2}$	= $\frac{1}{2}$ drachm	- ʒ ſs
20	"	$\frac{2}{3}$	= 2 scruples	- ℈ ii
21 to 60 years			1 drachm	- ʒ i

Above sixty—that is, in old age, the dose gradually diminishes.

Although the above table is, and may be, accepted as an average rule, it must not, by any means, be adopted as an invariable one in practice, without reference to the constitution, state of health, &c., of the individual. A strong child at three years of age may require, and may tolerate better, a much stronger dose than a weaker or weakly one two years older. Moreover, in the case of many aged persons, purgative medicines especially, will often require to be used as actively as in the young. Again, in such a medicine as opium, the proportions given in the table would give rather large doses for children, whilst, on the other hand, in the administration of mercurials, such as calomel or grey powder, they would reduce them too greatly. These observations are made, as qualifications to what some might regard, from its being in the tabular form, as a complete guide in all cases. The variations are of less consequence, as sufficient information respecting dose is always given in the place or article in which it is directly requisite.

As a general rule, women require smaller doses of medicine than men, and at the same time, it is always requisite to keep in view the peculiarities, periodical and otherwise, of their constitutions; and in the case of matrons, the possibility of pregnancy. It is better to avoid the use of strong purgatives, and of astringents, during the healthy menstrual period. In some cases, all relaxing remedies, such as warm bathing of the feet, and diaphoretic medicines, are inadmissible during the same event. Temperament, in all cases, requires to be considered in the administration of medicine. See *Temperament—Diathesis, &c.*

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[*] See Footnote, page 207.

[†] The British Pharmacopœia directs the discontinuance of the use of scruple and drachm weights, but it is thought that they will still remain in pretty general use as convenient symbols, the former for twenty and the latter for sixty grains.

There is some art—and a good deal depends upon it—in administering medicines properly, not only to children, but to adults. It is a very common popular saying, that "doctors do not give sugar-plums," and verily, unless it be the homœopaths, they do not. At the same time, much may be done to lessen the nauseousness of many drugs; the methods are generally pointed out when the medicines themselves are treated; the following do not occur under any regular head. The aromatic waters, such as peppermint, cinnamon, &c., are as much disliked by some, as they are liked by others; their addition to medicines may, therefore, generally—unless they are given as carminatives—be left to choice; as a rule, they do not render the medicine more palatable. The same observation, generally applies to sugar and syrups; in cough-medicines and the like, sweetness may be agreeable, and an advantage, but in the case of a nauseous medicine, sweetening it only renders it more sickly to most patients. From his own experience, the author can testify that the fewer additions made to *the* essential medicine—what physicians call the "basis"—the better. In the case of children, bulk is always an objection to be guarded against, as much as consistent with utility. The fact is, perhaps, not sufficiently realized practically, that one most efficient method of avoiding the taste of nauseous medicine, is to blunt for a time the acuteness of the nerves of taste: nothing does this so well and agreeably as the essential oil of orange or lemon-peel. A small piece of the rind of either of the above fruits chewed, just before and immediately after swallowing the dose, is very efficacious.

The nature of the medicine, and its form, should, in some degree, bear a connection with the periods of the twenty four hours. Tonic remedies generally, are better taken before evening; the time for taking purgatives, should, in some degree, depend upon their nature. Unless for some special purpose, liquid purgatives, such as castor-oil, senna, salts, &c., which, like liquid *medicines* generally, exhibit their action quickly, should not be taken late in the evening, when their action will probably disturb the night's rest; pills and powders on the other hand, which are slower in their action, may be, and generally are, taken at night. Although medical men order some medicines to be taken upon a full stomach, for special purposes, the generality are better taken when the stomach is empty, or nearly so; tonics, purgatives, astringents, &c.,
ticularly. In the first place, they are r
likely to interfere with the process of d
tion, and in the second, their proper s
is more readily and effectually manif

In conclusion, it might be thougl
some, that more, what medical men
prescriptions, and the public, recipes, r
have been given in this article, or thro
out this work generally; but the a
trusts that before this, the principle o
system of "safe domestic medicine'
been manifested—that it is not to furn
set of nostrums, one "good for" this
plaint, and another "good for" some
to be used without reason why or w
fore. Such a system of blind *pa*
quackery is truly mischievous, and ve
apart from the intelligent manageme
disease, more or less, according to cir
stances, and which is based upon a
even though a popular, knowledge o
functions and requirements of the h
body and constitution, of the disorder
of the accidents to which both are l
Under such a system, no series of nost
and mixed recipes is requisite; its s
and its efficiency rest, in the first p
upon the correctness and intelligent u
standing of the anatomical and physiol
knowledge, as far as it goes, upon the
appreciation of the causes and natu
disease and accident, as far as they c
popularly explained; and lastly, upo
simplicity of the means of alleviation
cure, which can be legitimately pointe

The term "Medicine" is usually
to the substance in its prepared stat
its crude condition it is more generally
a drug.—See *Drugs.*

The prepared forms of medicines ar

Cataplasm, or Poultice.
Cerate. *
Confection.
Decoction.
Distilled water.
Enema, or Clyster.
Extract.
Infusion.
Liniment.
Metallic salts.
Mixture.
Ointment.
Pill.
Plaster
Powder.
Spirit.
Syrup.
Tincture.
Wine.

Medicines are also divided accordi
their actions, as follows:—

Antispasmodics.
Astringents.
Antacids.
Demulcents.
Diaphoretics.
Diluents.
Disinfectants
Diuretics.
Emetics.
Emmenagogues.
Epispastics.
Errhines.
Escharotics.
Excitants.
Expectorants.
Narcotics.
Purgatives.
Refrigerents.
Sedatives.
Sialagogues.
Tonics.
†

For explanation, refer to the artic
the above subjects.

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* The Cerates are all omitted from the British Pharmacopœia, or changed into ointments.

† To the above list may be added Paratriptics, or substances which are believed to prevent or less
wear and tear of the animal tissues. The active principles of tea, coffee, cocoa, &c., come under this h

Refer to—articles on medicines individually and classified.—*Measures*—*Filter* &c.

MEDICINE.—The science and practice of medicine is, in its highest and worthiest sense, the practical application of many sciences to the investigation of the numberless diseases and disorders to which the human frame is liable, and to their removal, as a result of that investigation, either by the direct action of medicine, properly so-called, by medicine as assistant simply to the natural tendency towards health, or by other means which exercise a beneficial influence over the health of the body. To exercise well and truly this noble art, is perhaps the most difficult task in which a man can engage; but it would seem also to be the easiest channel through which the ignorant knave can gull his fellow-men. That it is so, however, cannot be laid to the charge of the science of medicine, but is the consequence of the thorough ignorance respecting the nature and requirements of their own bodies and constitutions, in which people, hitherto, have been for the most part content to rest; an ignorance which, strange to say, has been too often favoured by members of the medical profession, who seem to have laboured under a morbid dread, lest a patient should have the least rational idea of the nature of his own malady, or of the means, medical and otherwise, requisite for its removal. The effect of this mystery has been, in the eyes of the ignorant, to place the educated physician in many instances on the same level as the charlatan—more particularly in cases requiring long and slow treatment. In a case admitting of rapid and successful cure, by the well-directed efforts of scientific treatment, even the most ignorant can see, and in some degree appreciate, the educated skill which has afforded the striking result; but should the case prove to be a necessarily tedious one—its progress slow, perhaps uncertain, ebbing and flowing—the patient, and the patient's friends, unconscious of the nature of the case, and of the difficulties to be overcome, see nothing, perhaps, but mystery in the treatment; looking upon the curative powers of medicine, as exerted in some undefined curative effect upon the disease; and seeing first one medicine prescribed, and then another, they probably attribute the changes to the endeavours of the physician to "hit the complaint," whilst he is only making those changes requisite in every case of continued disease, to meet the varying and varied symptoms which arise; and when, by the exercise of patient skill, the disease is cured, the last medicine reaps the credit of the whole; and if the patient has been whimsical, very probably the last doctor gets the full credit for that which was really effected by a predecessor in attendance.[*]

Now, while it is evident that the entire treatment of such cases may have been conducted on the most scientific, rational, and conscientious principles, to an ignorant or prejudiced patient—and there are many such—or to one kept in ignorance, the whole is unintelligible, quite as much so as the quack nostrum, as far as the method of cure goes; and, perhaps, if the physician be a conscientious man, holding out far less brilliant prospects of speedy cure; the quack's promises and lies, carry the day against the physician's well considered, and, perhaps, guarded opinion; for the simple reason, that the patient is without any true rational idea of the structure of his own frame—of the requirements of his own constitution—of the nature and tendencies of his malady, and, lastly, of the objects and intentions which regulate the necessary treatment, and direct its aim.

Quackery and deception, in connection with the treatment of disease, never will, and never can be extinguished by legal enactment—they flourish on ignorance alone. It may be said, that the higher and educated classes in this country are the chief supporters of quackery, legal and illegal, patent and secret, and undoubtedly they are—because they are ignorant—ignorant of the simplest laws which regulate the working of that frame, so fearfully and wonderfully made, in which God has placed them to dwell on earth.

It is a reproach often brought against medical science and practice, that it is "so uncertain," so full of doubt, so liable to error: if persons would but reflect for a moment, it would be apparent that this uncertainty must in some degree be inseparable from a science which is *not one of order, but of disorder;* unlike chemistry, astronomy, and the other exact sciences, medicine has to deal with that which is regulated by no fixed laws, but varies with the constitution, the habits, circumstances, and numberless other contingencies connected with the individual, whose constitution, on the other hand, has its own peculiar susceptibilities to the action of remedies. These considerations will show why medicine must be to some amount uncertain; but with this admission, it is contended, that its skilful practice is capable of conferring the most extended benefit on suffering humanity. If medicine is yet uncertain, it is far less so than it has been, and every day is making it more exact.

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[*] A patient will often remark, "If you had only given me the last medicine at first;" not reflecting that the first medicines administered had to prepare for that "last medicine," which, apparently, has seemed to do all the good.

The practice of medicine or treatment of disease may be classed under the two divisions of Empirical and Rational. The former is rather the result of experience and experiment than of reasoning, and administers medicine which is known to remove certain symptoms, or sets of symptoms—constituting a disease—without any rational ground for the administration of the curative agent beyond the fact of its being known from experience to act beneficially in such cases. Rational medicine, on the other hand, looks less at the symptoms than at the causes, and endeavours to ground its treatment upon the observations after death, and upon microscopical, chemical, and other examination. The most efficient practitioner will probably be he who neglects neither method.

Refer to—*Diagnosis—Disease, &c.*

MEGRIM—is a species of nervous headache affecting only one side of, or one defined spot on the head, and is generally the result of debility. The immediate attack of megrim headache may be relieved by the application of flannel or sponge, soaked in hot water. The tendency is to be removed by the improvement of the general health and strength, by good diet, air and exercise, and by the use of bark, iron, and other tonics.*

MELON,—the well-known pleasant but indigestible fruit.

MEMBRANE,—in its purest form, is a thin expanded substance or pellicle, in which no trace of structure can be detected under the highest powers of the microscope; in this state, it is now known as "primary" or "basement" membrane. Membrane, however, may be constituted also, either of flat cells or of interlaced fibres. The surfaces of the serous or mucous membranes are spread over with layers of minute cells, which are concerned in, and adapted to, the functions of the particular membrane they cover; these layers are called the epithelium of the membrane, and resemble, in situation and purpose, the epidermis or cuticle which is spread over the skin.

Refer to—*Skin.*

MEMORY,—the mind's record of the past, is, we have every reason to believe, imperishable. The power to recall what has been imprinted on its, to us, mysterious tablets, may not be always at command, but all know that it is more so at one time than another, and medical men not unfrequently meet with cases of disease, in which the memory of long-forgotten knowledge is again opened up; the scenes, the thoughts, and the language and words of the first childhood, pass again through the mind of the second; the thoughts and feelings of later times are unremembered, a
Greek exercise or Latin poem of the
room are once more gone over correc
those to whom they have been un
tongues for years. This resuscitatio
were, of memory, as the effect of dis
not less remarkable than its loss; i
instances, under the same influen
man will remember numerals but
letters, another the reverse; one ca
recall the last syllables of words, a
stops short after repeating the first
more remarkable are the cases of
memory or consciousness, several of
are on record. In these, either in
quence of some acute disease, or
shock, all memory seems to be swept
the mind is left a perfect blank, and
tion, even in adults, has to be com
anew; in such cases, the individu
gone on for some time acquiring thes
rudiments of knowledge, when, all
the old memory has returned, and wi
its mental stores, blotting out app
the new; and this alternation of th
singular states of mind has occurre
and again. Loss of memory, ex
either with respect to things tha
hitherto been well remembered, or
wonted difficulty in the acquisition
ideas, must, unless well accounted
advanced age, be regarded suspiciou
the possible result of incipient cereb
order, it may be, of a tendency to ins

MENORRHAGIA.—See *Menstru*

MENSTRUATION.—The month
odical discharge, the "catamenia,"
of, if not the most important of th
connected with female health.

Commencing, usually, in this c
between the ages of thirteen and
its recurrence in health—except
pregnancy and nursing—is general
tended for a period of thirty yea
needs not to dwell upon the necess
the maintenance of the regular an
cient development of this function
those thirty years of life; femal
generally sufficiently aware of it, alt
sometimes, in carelessness or wil
they neglect the temporary self-res
imposes.

It is a foolish error, or neglect, n
common with mothers, to omit all
of the occurrence of this event t
daughters, the consequence is, th
symptoms which usually precede
ignorantly unattended to, and i
happen, the development of the f
is checked by imprudences which
information might have prevented.
over, the unexpected appearance

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* A large dose of Quinine, say ten grains, has often a wonderful effect in removing the headac described. Megrim is evidently a corruption of the Latin hemicrania.

period is apt to excite much alarm, and the mental agitation, or other causes, may at once check a natural and healthy proceeding; it need scarcely be said, with how great probable injury to health. Mothers or female guardians should always forewarn those committed to their charge, and put them on their guard against those exposures to cold and fatigue, to mental excitement, or abuse of purgative medicines, which may interfere with the natural relief. There is, of course, considerable variation as regards the amount of the menstrual discharge, and also in the period of its continuance. The one is in this country from four to five ounces, and the other from three to five days, on the average.

Climate, temperament, habits, &c., all exert much influence over the function in different individuals, or even over the same individual at different times; but these variations may all fall within the limits of health, and do not require interference; and, although in the majority of instances the function is established before the sixteenth year, it may, coincidently with perfect health, be delayed two or three years longer. Generally, however, the delay, or non-development of the menstrual function, if not owing to structural deficiency, or to *mechanical obstruction*, is owing to some deep-seated constitutional defect, such as is usually distinguished as "Chlorosis" or "Anæmia."—See *Anæmia*. In any case medical advice is requisite to give those proper directions for the improvement of the general health and strength, which are necessary, or to investigate the cause, whatever that may be, of so important a deficiency.

After the first appearance of menstruation, it is not uncommon for the second to be delayed for a considerable period, without the health in the least suffering; after its full establishment this can scarcely be the case. During the menstrual period, there is almost always some amount of irritation of the system, at least of an increased susceptibility to external impressions, and very often of increased tendency to hysterical affections; these facts always require to be kept in mind in the treatment of disease, and care taken that this does not interfere with the natural discharge, which, often in itself, proves no slight relief; indeed, there exists so strong a prejudice on this point among females themselves, that they will voluntarily stop a course of medicine at the time of their period. As well known, menstruation is generally absent during suckling; its occurrence and recurrence, whilst this is going on, should be a signal for weaning, for not only is the double drain most hurtful to the maternal constitution, but the milk undergoes alteration, becomes more serous and less nutritious.

Menstruation may be interfered with by causes from without, which check its development, and throw it, as it were, back upon the system; or by causes from within, generally incipient disease, such as consumption or general debility. In the former case, the stoppage is of the active, in the latter, of the passive character; in either case, the term Amenorrhæa is applied to the condition by medical men.

When menstruation in a healthy female is checked by external causes, such as cold, the whole system exhibits symptoms of oppression; there is probably fever, much headache, torpor, pain in the back, loins, &c.; these symptoms being aggravated, and perhaps mixed up with hysteria, on the return of each menstrual period. In such cases, relief is best afforded by those measures which tend to relieve the overloaded system; free purgation by some of the more active pills, such as compound colocynth, or compound rhubarb, with or without calomel or blue pill, senna, jalap, &c., will be found of service; effervescing draughts of carbonate of potassa and tartaric acid may be tolerably freely taken; if there is much complaint of headache, or of pain in the lower bowels, leeches in the groins, or cupping at the bottom of the back will do good, but these must be used in the interval, not just at the return of the period, at which time, immersion of the feet and legs in hot mustard and water, and hot hip baths will be most serviceable, the latter at the full heat of 98°, and repeated nightly for a few times, the patient remaining in for twenty minutes. Until the restoration of the function the diet should be reduced, especially as regards animal food and stimulants, and walking exercise regularly taken for a considerable time every day.

In *Amenorrhæa*, or suppressed menstruation from constitutional causes, the reverse of all these measures recommended above will probably be requisite; in such cases, the secretion is not thrown back upon the constitution, but the constitution, from some cause, has not power to bring it forward; it is evident then, that remedial measures must not be so much directed to the inducement of the function, as to the amendment of the debilitated constitution, and improvement of the general health: for these purposes, the plan recommended under article "Anæmia" will be generally applicable, and to that the reader is referred.

In any case of suppressed menstruation, medical attendance should be procured if possible, but especially so in the last-mentioned form, when the secretion ceases without any appreciable cause, and the constitutional powers seem to be impaired; in such cases, the threatening of some disease of debility is to be dreaded, which may, if detected early, be nipped in the bud. It is repeated, in such cases a medical examination cannot be too soon submitted to. Moreover, the distinction between suppressed menstruation with over-fulness, and that dependent upon debility, is not always clearly defined; such cases call for the most careful exercise of educated judgment. In cases of suppressed menstruation, the chance of pregnancy is, of course, to be kept in view: many mistakes have been made on this point.—See *Pregnancy*. The time of life is, of course, to be considered, and the possibility of the secretion disappearing at an earlier age than common.

In some cases of suppressed menstruation, what is called a vicarious or compensating discharge is sometimes established from the nose, the ears, the lungs, the stomach, &c., sometimes from an open ulcer.

Painful menstruation, "Dysmenorrhœa," is very common both among married and single, chiefly those of an irritable constitution, and of indolent habits. It causes much suffering; the subjects of it are less likely to become mothers, and often miscarry. As regards the cure of this painful disorder, it is not a matter for the unprofessional, it is generally tedious and difficult, or it may be unattainable, even in the best hands. For the relief of the paroxysms of pain much may be effected. Dr. Ashwell says, "Let the patient, on the first premonition of pain, commence the use of the hot bath at 96° or 98°, and ordinarily remain in it for a half or three-quarters of an hour, repeating it three or four times in the twenty-four hours, and always guarding against the effects of cold, by keeping in a hot bed; so long at least, as to allow the skin to resume its natural temperature. When the pain is very severe, the bath may be continued until faintness is induced; and if it be inadequate for this purpose, then half-a-grain of ipecacuanha, or fifteen drops of antimonial wine may be exhibited every hour." Opiates give relief; five grains of Dover's powder may be given twice or three times in the twenty-four hours, or ten drops of laudanum, or seven or eight of Battley's solution at the same intervals. Anodyne suppositories—see *Suppository*—are often of much service, or small warm clysters, containing ten or fifteen drops of laudanum; castor-oil being used if an aperient is requisite.*

In the slighter cases of difficult and painful menstruation, the hot bran poultice may be substituted for the hip-bath.

Profuse menstruation, or menorrhagia, like internal hemorrhages, may be either of an active or passive character. Many varieties of the affection are recognized, but it will be sufficient here to consider it under the above two general heads. Those advanced in life are, as a general rule, most subject to the disorder. Constitutional tendency, and the influence of climate, both exert so much influence upon the freedom of the menstrual discharge, that they must not be lost sight of in the consideration of cases of menorrhagia; what in one person would be excessive, may be only natural in another, and the usual amount in a warm climate, would be accounted profuse in a cold one. Profuse menstruation of an active character is most apt to occur in persons of full habit of body; and in such cases, within certain limits, may be considered, and allowed to go on, as a salutary relief. When, however, it becomes so free as to tell distinctly upon the strength, medical assistance should be procured, and in the event of the case being a severe one, blood and clots being passed away in quantity, treatment similar to that recommended under the head of "Abortion" should be resorted to till proper aid can be obtained. Females liable to these attacks of profuse menstruation, if of full habit of body, ought in the interval to submit themselves to medical treatment; animal food must be taken sparingly, stimulants avoided, early rising practised, and active exercise taken during the day; the bowels being attended to by cooling saline aperients; a tea-spoonful of Epsom salts, with fifteen drops of dilute sulphuric acid, taken every morning in half a pint of water, will form a most suitable dose. Continued and repeated active menorrhagia may end in the passive form.

Passive menorrhagia is most general in persons of debilitated constitution, in whom every drop of blood is of consequence, and in whom the continued weakness resulting from the disorder, is very apt to lay the foundation of consumption, and other diseases of debility, such persons ought always to be under the care of a medical man. In the event of a sudden attack, means very similar to those employed in the active form are to be at once resorted to, the strength being supported by strong animal broths, —and, if there is much exhaustion, by stimulants. In such cases, the oxyde of

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* Painful menstruation is often the result of undue exercise, and especially much standing, just before the menstrual period. Females who suffer much may greatly avoid the inconvenience by taking extra rest on the sofa, or in bed, before the occurrence. Chlorodyne in twenty minim doses repeated more or less frequently, will often allay the suffering.

ecommended by Sir James Eyre,
rd and half-grain doses, is ex-
eful, but must be given under
action. In the interval, these
require a strengthening tonic
animal food and broths freely,
nalt liquor, bark and mineral
"tincture of steel," in fifteen
, twice-a-day. It is repeated,
so many modifications and va-
h of cause and effect, in cases of
ia, that medical advice cannot
dispensed with, and should be
as soon as practicable.

line of menstruation usually oc-
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st establishment. The period is,
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critical era in their lives. With
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ion also ceases. Such an im-
ange cannot take place without
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men themselves seem to think it
necessity that they must have
is period. This is probably going
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ely trifling indisposition, and
e disorder that does occur, may
o luxurious and artificial modes
haps also, to privation and over-
owever, disorder at the "change
sufficiently common to make it a
expediency in all cases, of neces-
ny, that the health should be
watched, and any symptoms of
nce attended to. As might be
irritations of the nervous system,
hypochondriacal, and even ap-
insanity, are apt to occur; still
uently, disorder, indicative of
r overfulness of blood, such as
or apoplexy, spitting of blood,
or the individual becomes corpu-
ly, cancerous diseases not unfre-
ow themselves for the first time at
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ocynth pill alone, or with blue
senna, castor-oil, or saline pur-
e means which may safely and
fit be carried out; on the occur-
tual disorder or disease, medical
be sought at once—any sudden
ng attended to according to its
d under the directions given for
ment in the proper place.

)—*Abortion*—*Hemorrhage*—*Preg-*

MERCURY—QUICKSILVER—the well-known metal, fluid at ordinary temperatures, furnishes some of the most important agents used in medical practice. Of these it will be sufficient to notice its preparations in the form of blue pill, and of grey powder, of calomel and of "red precipitate," and of blue ointment. Corrosive sublimate, although a preparation of mercury used by medical men as a medicine, will only be noticed here with reference to its poisonous properties.

Quicksilver itself has been used in medical practice, not as a medicinal, but as a mechanical agent, in obstruction of the bowels; as much as a pound being administered at once, under the idea that its mere weight in passing through the bowels would overcome the stoppage. The practice has been almost abandoned.

In the forms of blue pill and of grey powder, mercury, according to some, exists merely in a state of minute division, but is most generally thought to be in a state of low oxidation. The former of these preparations is made by rubbing up metallic mercury in certain definite proportions, with conserve of roses and liquorice root powder, until the mercury disappears, or, as it is often expressed, is "killed," the entire mass assuming the well-known greyish-blue colour. Grey powder is similarly made by rubbing the mercury with chalk. These two forms are mild, but effective, and most useful preparations; the blue pill for adults, the grey powder for children, or where very gentle action only is required, it being milder than blue pill. It should be remembered in giving grey powder, that if given in preserve or treacle, the acid, meeting with the chalk, gives rise to effervescence.

Calomel is a compound of mercury and chlorine, and is a much more powerful preparation than either of the above; it occurs in lumps, but is generally met with and sold in the form of a heavy white powder with a slight tinge of yellow. It is often adulterated.

Red precipitate is an oxide of mercury, and should be in the form of brilliant red, somewhat glistening scales. It is often adulterated with red lead, which has a much duller appearance.

Corrosive sublimate, like calomel, is also a compound of mercury with chlorine, but with a larger proportion of the latter, hence, in chemical language, calomel is known as the chloride of mercury, and corrosive sublimate as the bichloride. Calomel has also been called the submuriate, and corrosive sublimate the muriate. These terms are apt to create confusion, and might occasion dangerous mistakes, as the corrosive sublimate, except in minute doses, is a virulent poison. It is better, for medical purposes, to adhere regularly to the old and perfectly distinctive names of calomel and corrosive sublimate.

The medicinal uses of mercurial preparations are, perhaps, more numerous than those of any other single agent in the materia medica, for, while, in itself, a mercurial acts as an alterative, as a purgative, as a stimulant, or as a powerful constitutional remedy, according to the mode in which it is given, when conjoined with other remedies, it appears to merge its action in theirs, quickening and strengthening that of the drug to which it is adjoined. With the diuretic it is diuretic, with the diaphoretic it increases the determination to the skin, to the purgative it gives more energetic action. Not the least remarkable and valuable property of mercury is its power of controlling or of subduing inflammation; in many cases, it is often all that the practitioner can trust to; hour after hour he pushes on the mercurial, in the assurance that if he can get the constitution, however slightly, under its influence, the disease will succumb. This effect of mercury is more particularly manifest in inflammations affecting the eye, such as iritis, in which, as through a glass, the whole process is to be witnessed; and it is such a curative effect, as he in this case witnesses, that gives the physician confidence that, in cases where he cannot see, similar desirable results follow the action of the drug upon the constitution of his patient.

The administration of mercury in various diseases being noticed when the diseases themselves are treated of, the reader is referred to the proper articles.

The constitutional affection, by means of mercury, known also as mercurialism, or ptyalism, or "salivation," is not a state to be lightly induced, and without good reason, by a medical man; never, by an unprofessional person, except in an extreme and acute case. The first symptoms of the constitution being affected by mercury, or of approaching salivation, is a sense of fulness and tenderness of the gums, the teeth feel, as it were, elongated, and the person cannot bite any firm substance, such as a crust, as well as usual; coincident with these symptoms, the breath acquires a peculiar fetor, which once smelled, cannot be forgotten, and the gums, if examined, are seen to be slightly swollen, and of rather a purple hue. If the medicine be now stopped, or given only in very small quantity, the constitutional indications
become more developed, nor, inde
it serve any good purpose that they
be so; but if the medicine be gone
as usual, the gums become muc
swollen and tender, the tongue and
around the jaws inflame and sw
there is continued flow of fetid sal
the mouth. At the same time,
much constitutional irritation—m
fever, as it is called—and, altoget
individual under the action is in
miserable condition. It is by no
requisite for the good effects of a m
course to be developed, that the i
of the medicine should be pushed t
neither is it desirable; all that is
is, that the gums should give indic
the constitution being affected.
same time, in some individuals, any
tutional affection by mercury ap
involve this violence of action;
there are some constitutions so sus
of the action of the medicine,
smallest dose cannot be taken wit
producing free, or even violent sa
Such cases are among the most v
which it falls to the lot of a medical
encounter. He orders, perhaps,
ordinary dose of some mercurial, a
it has produced salivation, injur
patient, and probably entailing
may be weeks—of discomfort. It
experience of the fact which can p
the individuals to which this accid
happen; but, having once occu
ought always to be kept in mind,
person thus liable, having occa
change their medical attendant,
should be communicated at the v
interview. Unfortunately, but li
be done to cut short, or even
greatly, a course of mercurial sal
cold, of course, is to be avoided, th
wash for the mouth, or tincture of
or camphorated spirit in water, used
the mouth, afford some relief. A
made with two drachms of chloric
eight ounces of water, is also serv
and diminishes the fetor; solution
ride of soda, in the same proporti
have the same effect. A few leeches
applied under the jaw, and saline a
such as Seidlitz powders, or Epso
largely diluted, may also be given
vantage, if the patient can swallo
and is not in a very reduced stat
excitation of mercurial action must
as much as possible, be avoided in s
constitutions; in such, mercury
acts as beneficially as in others. M
action is not unfrequently induced by

ng to take, inadvertently, aperient
hich contain small doses of the
. When these are prescribed by a
man for a temporary occasion,
should always accompany the
ion.

mercurial preparations are given
doses, they exert an inappreciable
is called "alterative"—action in
g the quantity and quality of vari-
tions. For this purpose, a grain of
, or a couple of grains of grey
may be given twice in the twenty-
rs. Of all the organs on which
ls exert their effects, the liver is
viously affected; small alterative
mulate gently the flow of bile, and
its quality if impaired; larger
imulate more actively, bringing
e bile freely, and carrying it
the bowels with a purgative action.
more obviously the case when the
been in an over-loaded condition,
ose of mercurial, even a small one,
it were, the flood-gates, and the
cent of bile, often in an acrid con-
uses diarrhœa, with severe griping.
ercurials are given with other medi-
purgatives, it is generally in doses
ill not purge, for, should that
e desired action is interfered with.
ercurials are given in frequent and
small doses, either in inflammatory
for the purpose of affecting the
on, it is usual to combine with
ll quantities of opium, a quarter of
each dose, to check the purgative
as it is expressed, to prevent the
from running off by the bowels.
lterative, the doses of mercurials
pill one grain, grey powder two
lomel half-a-grain; as a purgative,
from five to eight grains, grey
x to ten grains, calomel three to
. When mercury is given to act
upon the liver, it is better given
to the Abernethy plan—that is,
ed at night, and followed by a
liquid purgative, black-draught,
or the like, in the morning. In
the mercury is able to exert its
upon the liver, whereas, if com-
h a purgative at first, it is hurried
he bowels too quickly to do this.
e persons, mercurials produce a
eat nervous irritation; in others,
e deadly sickness and faintness.
generally bear mercurial medi-
, in doses which are large when
with those of adults. It is almost
to salivate a child—indeed, in
quite so. The stools occasioned by the purgative action of mercurials, especially in children, are generally of a dark olive-green.

Poisoning may be occasioned by any of the preparations of mercury, but corrosive sublimate is the most frequent agent of the class by which it is produced. This substance occurs in the form of a heavy, crystalline powder, and has a strong metallic taste. Three grains would be a dangerous, if not a fatal dose. Corrosive sublimate can scarcely be swallowed without the strong taste being quickly perceived; very shortly, violent pain in the bowels, succeeded by vomiting of stringy phlegm mixed with blood, comes on, the bowels act violently, and if the patient is not relieved, collapse or sinking is followed by death. Of course, in such a case, medical assistance should be got with all speed, but, fortunately, the most effectual antidotes are generally within easy reach; these are the white of eggs, given mingled with a little water, or if this cannot be had at once, thick flour and water, or milk; free vomiting being, at the same time, encouraged by ipecacuanha, if at hand, or by a feather in the throat. The white of egg must not be given too freely; for, if in excess, the good effects of a *sufficient* smaller quantity are neutralized. If the quantity of the poison given be known, the white of one egg may be given for every three grains.* Accidental poisoning, even by the mildest of the mercurials, may arise in consequence of violent constitutional affection, owing to peculiar susceptibility. Such cases are most frequent in children, and are usually accompanied with severe affection of the mouth and mortification of the cheeks, gums, &c.; they generally occur in weak constitutions, and the best antidotes are wine, strong animal broths, bark, or quinine, with two-drop doses of muriatic acid every six or eight hours. Such cases *must* be put under medical superintendence.

Slow poisoning by mercury is apt to occur in those—such as looking-glass silverers, &c.—who are much in contact with the metal in their daily occupations. They become liable to a peculiar shaking or mercurial palsy, which compels them to abandon their occupations; the same symptoms occur in those employed in quicksilver mines.†

Mercurial, or blue ointment, is prepared in a somewhat similar way to blue pill or grey powder. See *Ointments.*

A sulphuret of mercury constitutes the well-known pigment, vermilion.

Powders containing grey powder, calomel, &c., and indeed, heavy powders generally,

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ng by Corrosive sublimate has been treated successfully, it is said, by giving gold leaf, mingled
lngs.

are apt to be affected with Mercurial poisoning, owing to their using preparations of Mercury,
fur. The Oxide of Mercury and solution of the Nitrate of Mercury are used for this purpose.

should either be simply placed on the tongue, or given in some thick vehicle; but a tea-spoonful of milk answers very well for the administration of grey powder to children. Calomel, in a thin liquid, such as tea, &c., sinks at once to the bottom, and probably is not swallowed. Refer to —*Plummer's Pill.*

MESENTERY—is a broad fold of the "peritoneum," or covering membrane of the bowels, by which the small intestines are connected with the posterior part of the abdomen, and retained in their place. The mesentery contains the mesenteric lymphatic glands, &c. See *Digestion.*

METASTASIS.—The shifting of diseased action from one part of the body to another, the portion deserted being left free from disease. This occurs in rheumatism, in gout, in mumps, &c. &c.

MEZEREON.—The root bark of the Daphne mezereon, a shrubby plant found in shady woods, which flowers in February. It is rarely used as a purgative and diaphoretic. The berries are poisonous.

MIASMA.—See *Ague.*

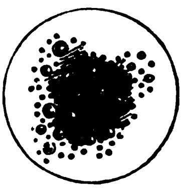
MICROSCOPE.—This well-known instrument, which enables us to examine structures far too minute to be even visible to our unassisted vision, has done, and is doing much every day to render the practical applications of medicine more exact. Many of the conditions of the urine are appreciable only by the aid of this invaluable instrument; the nature of tumours, often a matter of serious import, when their removal by surgical operation is the question, is by it, in many cases, determined, in a way that no other means of discrimination could admit of; many other instances might be cited; in fact, a medical practitioner cannot now be considered to avail himself of *every* resource of his calling, unless he uses the microscope. In medico-legal investigation, it proves of the highest service; stains which, without the use of the microscope, could only be doubtfully distinguished, are, by it, so exactly discriminated as to afford foundation for sworn evidence. As a rational and highly instructive means of amusement, every family should possess a microscope.*

MIDRIFF. — The Diaphragm. See *Diaphragm.*

MILIARY.—An eruption, consisting of numerous very minute vesicles, which is apt to appear intermixed with other eruptive diseases, but particularly in cases where persons have been perspiring very much, or kept too hot, in illness. Miliary eruption on the skin, used to be very common in women after childbirth, in times when it was the
custom to keep them much too hot,
stimulate. See *Skin.*

MILK—the nutrient fluid secret
mammiferous animals for the sustena
their young, through the agency
peculiar "mammary" glands provid
the purpose, is the only material th
out the range of organization prepar
nature expressly and solely for
moreover, it contains within itself a
is requisite in food to maintain in
and to build up the frame of a living
The milk of animals† generally is c
terized by certain general properti
constituents, although it varies m
the proportions of the latter it contai
this article, attention must be confi
the peculiar nature of the milk
human female, and to that of the
"ass's milk" has been already n
When milk is examined under the
scope, it is found to consist of numb
minute spherical globules—fig. A.—

A



are suspended or float in a sero
From these globules, which are o
sizes, milk derives its opaque w
consequently, when it is diluted wi
and the fluid increased in proporti
globules, the rich whiteness of
milk is destroyed, and the liquid
more or less blueish or semi-t
appearance. These globules
consist of the oleaginous, fatty,
portion of the milk, but they a
curd or caseine; this constituen
chiefly exists in a state of solu
serous or fluid portion of the l
with the sugar and salts, chiefly
of lime and magnesia, with p
small proportion of iron.

Thus we have milk consistin

Cream, its oily or fatty c
the form of globules, which are

Water, which holds in solu

Curd or caseine, in combinat

Phosphate of lime, and of n
potash and iron, and also

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* For an account of some of the most recent applications of the use of the microscope to see Appendix, article—Microscope.

† Refer to—Goat's Milk.

f milk.

er ingredient is not present in the mivorous animals as long as they flesh solely, but appears, if they o eat a portion of vegetable food. lk of the cow, the proportions of eam, and of sugar—that is, of the leaginous, and saccharine ingre- ʒ about equal; in human milk, rine and oleaginous constituents tionally greater than the curd. is less opaque and thinner in ı than cow's milk, and is most roached in composition by that e and ass.

ilk is alkaline, has an average ivity of 1·030, and when good, is fectly homogeneous; after stand- ght oily particles separate and ater or less proportion at the top id, in the well-known form of the milk be kept some time— kly in a warm situation—lactic ced by a process of fermentation, rd separates, souring or curdling ce. Various modes and instru- e been employed for testing the milk as to richness, &c. The 'a small quantity of carbonate of k retards its souring and curdling, aisite to keep it longer than usual. general fraud practised of di- ; sold to the public with water, ly called forth a very useful and little instrument—fig. A—called the "Milk Tester," the invention of a Mr. George, by which the purchasers can at once detect, not only whether water has been added to milk, but in what quantity the addition has been made. The printed directions issued with the instrument are as follows :—

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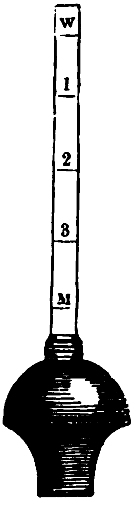

"Place the instrument in water, and drop on the rings until it floats at the line of the W (water),* then place it in the milk to be tested and its quality will be at once shewn. For instance, should the instrument float at 3, the mixture would be composed of three parts milk, and one water; at 2, half and half; at the 1, one part milk, and three water. Should the instrument float at any point between the divisions, it must be allowed for accordingly; for instance, should it float between the M and the 3, the milk would be three and a-half to a-half water, between the 3 and 2, two and a-half milk to one and a-half water, and so on."

The addition of a graduated glass which would show the amount of cream contained in the milk tested would much increase the value of the instrument.

The instruments are sold wholesale at No. 2, Adelphi Arcade, Strand.

The milk which is first secreted—formed —after the birth of the young, varies from any that succeeds it, particularly in possessing a purgative property which acts beneficially upon the bowels of the offspring. In the cow, this first, or "green" milk or "colostrum" is very nutritive, and contains much curd of a peculiar nature, which is coagulable by heat, like the albumen of egg. On this account, it is used in the country parts of England, under the name of "beastings," for making a kind of custard pudding. The first milk, or colostrum, of the human female, is thin and serous looking. This first milk or colostrum, in animals generally, if examined under the microscope, exhibits an intermixture of larger and different globules from those of ordinary milk.

It is perhaps needless to remark, that upon the health of the being or animal by which milk is afforded, the nutritive properties and wholesomeness of the fluid depend; in the case of mothers, therefore, who are decidedly unhealthy, or the subjects of any disease, scrofulous or otherwise, it is better for their offspring that they should not be nursed by them; and even in the case of the healthy mother, this secretion is so liable to be affected and deteriorated by irregularities in diet, by emotions of the mind, and by medicine taken, that the greatest care, as all mothers well know, is requisite to prevent such causes and effects being accidentally originated.—See *Children—Nurse, &c.*

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* In weighting the instrument with rings, in the first instance, it may be observed that it is not at all necessary that it should float exactly at the line of the W, for let it be either a little over or under it, if an equivalent allowance be made for it, in its immersion in milk, the result must be correct. The instrument should be splashed into the water, or moved briskly about in it, to detach any air bubbles that may have adhered thereto, the ivory wetted, and the Tester allowed to take its position of equilibrium before the floating point be remarked.

Cow's milk is so largely used as an article of diet—see *Food*—that its purity and goodness, especially in large towns, become a matter of much importance. The following remarks on the subject from the *Lancet* Sanitary Commission, are valuable. The specimens of milk examined were procured from milk-sellers in various parts of London.

‘ From an examination of the table drawn up, it appears that, out of twenty-six samples of milk submitted to analysis,

“ 1st—That twelve were genuine.

“ 2nd—That of these, two shewed a deficiency of cream.

“ 3rd—That eleven were adulterated.

“ 4th—That this adulteration consisted in all cases of water, the per centage of which varied from ten to fifty per cent., or one half of the article.

“ 5th—That in no case was chalk, size, gum, sheep's brains, or any of the other substances occasionally used for the adulteration of milk, detected.”

These results are more favourable than might have been anticipated, from the belief generally entertained respecting the gross adulterations to which milk, as alleged, has been so constantly subject.

In addition to the modifications which milk undergoes in the hands of the dealer, there are those due to the condition of the animal. The pasturage, the supply of water, temperature, all influence the state of the milk as regards quality and nutritive power; Its wholesomeness depends upon the period after calving—milk not being in good condition for three weeks or a month after this occurrence—upon the health of the cow, upon its food, and upon the condition of the place in which it is kept. It is notorious, that in many large towns, and in London especially, the mode in which extensive dairies of cows are, or have been, lodged and fed, is disgusting—most unwholesome for the animals, and therefore for those who use their milk, very many of the cows being diseased, consumptive, and stimulated to the last with fermenting brewers' grains.

As an article of diet, milk is for the generality of persons most wholesome, for children especially, of whose food it ought to form in some mode or other a large proportion: less heating than animal food, it is equally nutritious.—See *Children.*

Some persons, both children and adults, find new milk too rich, but can take it after the oily cream has been removed by skimming, or if it is diluted with water, or boiled. The addition of from one-third to one-half lime-water, will often cause milk to sit more lightly on the stomach.[*]

When milk is taken largely without other food, there is risk of the formation of a mass of solid indigestible curd in the stomach, which may cause much uneasiness, and at times, in children, even alarming symptoms; its expulsion by vomiting is the usual means of relief. Some persons cannot take milk without suffering from stomach disorder and headache, and others, who suffer from chronic chest affections, find its use aggravate the symptoms. It need scarcely be added, that except in these peculiar cases, milk, and milk preparations, form one of the most valuable resources in the dietetic treatment of the sick. Many invalids derive much benefit from the use of milk warm from the cow in the early morning; in some cases, a small quantity of black pepper, or a tea-spoonful of rum or brandy, is added to the tea-cupful of milk with advantage.

The whey, which is the serous portion of the milk, freed from the curd and a portion of the cream, is light, nutritious, and aperient, and is perhaps too much neglected as a beverage; the same remark applies to buttermilk, which is freed from the cream, but retains the curd.

Those who desire more information on the subject of the above article, will find much in the Reports in the *Lancet* for September 13th, 1851, and for the two following weeks.

Refer to—*Breast—Cheese—Children—Cream—Food, &c.*

MIND—the immaterial part of our existence—exerts so marked, so powerful an influence over the conditions of our bodily health, that it makes the tone of the mind a weighty consideration in forming an opinion respecting the ultimate issue of many cases of disease. Under such articles as *Faith, Home-sickness, Hope, Fear, &c.*, the subject has been entered into as far as consistent with our limits.

MINERAL ACIDS.—See *Acid.*

MINERAL WATER.—See *Water.*

MINIM.—See *Measure.*

MINT.—The mints constitute an extensive tribe of plants, well known for thei ssential oils. Three species of used in medicine — peppermint, , and green or spear-mint. Of irst is at once the most energetic ost extensively used as a stimu- carminative, either in the form ntial oil, of its distilled water, of or most generally of all as a Peppermint-water is taken in ne or two fluid ounces; oil of t, of from two to five drops on the spirit, a tea-spoonful may t once. A very powerful medi- ermint lozenge is made, which ly useful where the medicine is

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[*] The mixture of equal parts of soda water and milk forms a nutritive drink which agrees well with many persons when suffering from illness, and in some cases of exhausting disease it will be taken, when perhaps no other form of nourishment is possible. Hot milk, slightly sweetened, to which an equal part of soda water is added, forms an admirable night-draught in incipient cold, when stronger remedies are unnecessary, or even in addition to them.

—*Carminatives.*

RRIAGE.—See *Abortion.*

RES are medicinal compounds l form; they may be simply com- rious liquids mingled together; e solutions, or they may contain powders, as in the case of chalk ron mixture, &c. In the latter addition of gum or of gum muci- ful to prevent the powder sub- rapidly as it otherwise will do; will not prevent this altogether, d always be taken to shake up nt in any liquid medicine. In which are likely to be kept for especially in warm climates, all matters should be excluded, to mentation; if this precaution is the bottles will certainly be n forming mixtures with light specially, such as, magnesia, a, &c., and indeed with any it must be done in a mortar, first only a very small proportion If much water is used at first, re can never be completely and ffected.

—*Medicines.*

,—or, as they are often called, ceptions," have seldom, if ever, ction with an impregnated con- he womb, and arise from causes t from this state. The popular these formations are the result of requires correction, for it might st erroneous and distressing as- a character.

ON THE SKIN.—See *Mother-*

SHOOD.—See *Aconite.*

MANIA.—A species of insanity. ed or erroneous persuasions of n one subject. The disease may er as acute or chronic, and take suicidal, homicidal, &c., and may cendiarism or theft, to religious melancholy, or to the most absurd ideas and acts.

Refer to—*Insanity.*

MONTHLY DISCHARGE.—See *Menstruation.*

MORBUS COXARIUS.—See *Hip-Joint Disease.*

MORPHIA.—See *Opium.*

MORTARS AND PESTLES — are instruments used for triturating, bruising, reducing to powder, &c., the different medicinal substances. They are made of various materials — iron, brass, marble, glass, Wedgewood ware, &c., the last being by far the most generally useful, and quite sufficient for all domestic purposes, at least in this country. In emigrant life, an iron mortar might be found useful. The Wedgewood mortar is generally made of the form —fig. A, 1—the pestle—fig. A, 2—its head made of the same material as the mortar, being fitted to a wooden handle. The mortars with which medicine chests are fitted are generally too small, and are only suitable for mixing powders, &c.; there should therefore be added to the domestic laboratory a larger size, one capable of holding about a pint will be most convenient. The great advantage of the Wedgewood mortar is, that whilst much stronger than glass; it is not like marble or metal, acted upon chemically by different agents. It may, however be broken, if struck sharply with the pestle. The pestle is used in the mortar sometimes with a beating or hammering action; but more generally it is used to grind or triturate, whilst firmly grasped. For simply mingling powders, a lighter hold by the forefinger and thumb is quite sufficient.

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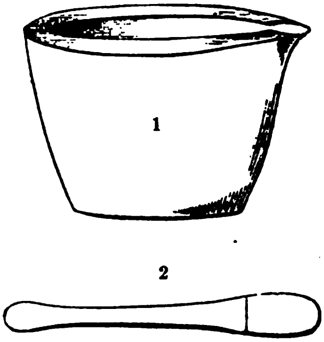

MORTIFICATION, or Gangrene, or Sloughing, is the death of a portion of the living body occurring after violent or peculiar inflammation of the part; the appearance of the mortification varying according to the structure affected. A part in which inflammation is likely to terminate in mortification, is hot, painful, tense, and hard; the colour of the skin, at first dark and angry-looking, becomes mottled, and the surface exhibits blisters filled with dark fluid; at this time the previous heat giving way to a temperature lower than natural, and the pain diminishing; at last the part shrinks, becomes of a dirty grey or ash colour, and exhales a fetid odour. Coincident with these local symptoms, if the mortification be extensive, or situated in an important part, the constitution exhibits signs of collapse; the face is pinched, cold, moist; the pulse quick and feeble; the tongue brown; the mental faculties depressed or disordered; the natural functions are performed involuntarily; and hiccup is a very frequent accompaniment.

Some parts are more prone to mortification than others, but in all, impeded or deficient circulation of blood is the originator; this may be caused by weakness of the body generally, by weakness of the circulation, of a part such as occurs in paralysis, by impediment to the current of blood through the vessels large or small, by pressure on a main branch, as by a tumour, or on one spot, as occurs on the back, in persons confined by exhausting disease, and by intense cold or heat, which destroy the textures, or by the use of unwholesome grain—see *Ergot of Rye*, &c. It may also occur from intense inflammation in persons of full habit of body. In the event of an inflamed part shewing symptoms of mortification, if a medical man has not been in attendance, he ought to be called without delay; in the meantime, warm poultices may be applied, those made of oatmeal and bran are often useful; but the best applications, if procurable, are the chloride of soda or chloride of lime solution, diluted in the proportion of a quarter to half an ounce of the solution, to half-a-pint of water, and used warm as a lotion; at the same time, the strength must be supported with wine, strong meat broths, &c., and rest procured by means of opium.—See *Opium*. When a mortified or sloughing part of the body is separating, its loose and dead portions are usually cut away with scissors, to diminish the fetor; poultices facilitate the separation, and after it has taken place, simple water-dressing will generally be found most suitable.—See *Dressing*. Refer to—*Inflammation, &c.*[*]

MOTHER-MARK.—The term is applied to stains, moles, and other marks, vascular and otherwise, with which a child is born, and for which many fanciful causes are assigned. The most important mother-marks are the vascular naevi.—See *Children*, page 104.

MOTHER.—See *Child-bed — Children — Hereditary—Nurse, &c.*

MOTION, and MOTOR CHANGE.—Movement in the living body is the result of contraction of the muscles, or at least of the muscular fibres, either voluntarily or involuntarily; this contraction, whenever excited, giving rise to expenditure of the substance of the acting fibres, or in other words, to metamorphosis of some of the elementary constituents of the fibres, chiefly by combination with the oxygen of the arterial blood. This metamorphosis, which there is reason to believe is an essential of the process, is what is meant by motor change.—See *Animal Heat—Blood—Food, &c.*

MOUTH.—The cavity which contains the tongue and teeth, in which is performed the important process of mastication, and by means of which articulate sound is formed, is inclosed by the lips and cheeks, by the upper and lower jaws, by the soft palate and tonsils, by the "fauces" generally, and by the mucous membrane, stretching from the tongue to the lower jaw; it is further surrounded by the salivary glands, which supply its moisture, and which open by the ducts into various parts of its cavity. The portions of the mouth are liable to different diseases. These along with other necessary information, are detailed in the individual articles.

Refer to—*Aphtha — Palate — Saliva — Throat, &c.*

MOXA,—a means of counter-irritation, derived from, and long practised in the East. The true moxa is a soft woolly substance, procured from the leaves of a species of mugwort, which is made into a cylinder, and burnt down upon the skin, causing a deep eschar.

MUCILAGE.—A thick semi-fluid, formed by the solution of gummy or starchy matters in water; such as mucilage of gum acacia, arrow-root mucilage, &c.—See *Gum, &c.*

MUCOUS MEMBRANE—is a membrane which lines certain portions of the body, and which is itself covered on the surface with an "epithelium" of flattened cells, and from which is secreted the thick viscid secretion named mucus.—See *Mucus*. There are two great systems of mucous membrane: the one which lines the mouth, nose, eyes.

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[*] Senile gangrene is the mortification of the toes and feet, which sometimes occur in aged individuals, and especially in those who have lived freely, and indulged in the pleasures of the table. It is sometimes accompanied, if not caused by degeneration or disease of the coats of the blood-vessels.

throat, bronchi or air tubes, and is also continued down the gullet, and through the stomach and bowels to the vent; the other, the genito-urinary membrane, which lines the kidneys, bladder, &c.

The affections to which mucous membranes are subject, are sufficiently entered into under such articles as "Catarrh," "Diarrhœa," &c., when the diseases of the parts they line are treated of.

MUCUS—is the thick, somewhat viscid, glairy secretion, formed on the surface of mucous membranes; examined under the microscope, it is seen to contain numerous round granular particles or globules, similar to those which are contained in pus or matter. When a mucous membrane is inflamed, its secreted mucus becomes thin and acrid, as all know it does in a cold in the head, which is simply inflammation of the mucous membrane lining the nostrils: when the inflammation is more intense, or of a peculiar character, the mucus secretion is apt to be converted into a purulent one.

Refer to—*Pus*.

MUMPS.—A contagious epidemic disease, which consists of inflammation of the salivary "parotid" glands, situated on either side of the lower jaw. It commences with more or less fever; shortly, swelling at the angle of the jaw appears, and spreads gradually to the face and neck in the vicinity of the gland, causing much difficulty and pain when the jaws are attempted to be opened: on the fourth or fifth day, the swelling begins to subside. Little treatment is required, beyond confinement to the house, and the administration of some simple purgative. The patient is compelled to live on slop diet, from the impossibility of mastication; but if the person be delicate, good broth may be allowed. Hot fomentation and bran poultice to the swelling will give some relief, and if the pain and swelling are very severe, a couple or three leeches may be applied to each side. Mumps is a disease quite devoid of danger, unless, as has occasionally happened, though rarely, the inflammation becomes suddenly transferred to the brain or testicle.*

MURIATIC ACID, or HYDROCHLORIC ACID, or "SPIRIT OF SALT."—See *Chlorine*.

MUSCLES AND MUSCULAR FIBRES.—The muscles, properly so called, are the fleshy portions of the animal frame, by means of which the various movements of the body are effected, in fact, *all flesh is muscle* devoted to this purpose. The muscles are composed of bundles of fibres bound together by cellular tissue, and these fibres can be divided and subdivided under the microscope, until the "ultimate fibre" of muscle is arrived at; this ultimate fibre, containing within it other "minute cylindrical particles." These fibrillæ are marked with transverse lines, and constitute the striated muscular fibre, in contradistinction to the non-striated fibre, which composes the muscular coat of parts such as the alimentary canal, which are not under the control of the will. The muscles are attached to bones, &c., for the purposes of movement, by means of tendons; they are largely supplied with nerves—see *Nerves*—and also with arterial blood, on the free circulation of which, indeed, the motor change of their elementary constituents, and consequently their power of action, depends. When an animal has been goaded or hunted into a state of nervous and feverish excitement, and killed, the muscular fibres are left in such a condition as to be unwholesome for food, and quickly become decomposed and putrified. Had the powers that be, been more cognizant of this fact, and of the influence it might exert upon their own health, Smithfield would not have stood so long.

Refer to—*Beef*—*Flesh*—*Food*—*Motor Change*—*Tendons, &c.*

MUSHROOMS.—The fungus tribe to which mushrooms belong, contains a large proportion of poisonous members, and even those which are usually considered edible are not always above suspicion in this country. In France, Russia, &c., many species of fungus are used, commonly, and largely, as food, and are very nourishing, as they approach in some degree animal matter in constitution. Those who gather mushrooms for food should be very certain that they know what *are* mushrooms, and this will be best learned from those who are practically acquainted with the matter; it may be added, that even real mushrooms, which grow under trees are generally considered unwholesome, and also those in which the process of decay has commenced. Dr. Christison says, "The poisonous fungus has an astringent styptic taste, and perhaps also a disagreeable one, but certainly a pungent odour." After poisonous fungi have been eaten, there is generally giddiness, dimness of sight, and debility, if the symptoms appear quickly, but if they are delayed they are more generally those of irritation, vomiting, purging and pain. In a case of poisoning by fungi, treatment similar to that recommended for "Belladonna" will be the best, in the absence, or during the delay in the arrival of a medical man.—See *Belladonna*.

MUSSEL.—See *Fish, &c.*

MUSTARD.—Black and White Mustards are plants which grow wild throughout Europe, but are cultivated for use; they are often confounded with the common charlock. Black mustard has smooth seed vessels which grow close up to the stem, and contain reddish black seeds. White mustard has tough seed vessels, which spread away from the stem, and contain yellow seeds. The seeds of the black mustard are more pungent than those of the white, but the two are very commonly mixed in the manufacture of the common "flour of mustard;" this is formed by crushing and pounding the seeds, and sifting. The sharp, burning acridity of black mustard, depends upon a volatile oil, which, however does not pre-exist in the seeds, but is formed on the addition of water. There is, perhaps, no article in domestic use more largely adulterated than mustard; the following result of the investigation of the *Lancet* Sanitary Commission sufficiently illustrate the extent and nature of the fraud; these shew,—

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* Pain and swelling of the testicle in young lads, after Mumps, is not uncommon, and ought to be treated by rest and fomentation. Boys are very much and needlessly alarmed at its occurrence. In young females, the breasts are occasionally affected.

"1st. That genuine mustard, whatever be the price paid for it, is scarcely ever to be obtained;

"2nd. That the whole of the forty-two samples—bought in London—submitted to examination, were adulterated:

"3rd. That the adulteration practised in every case, was the same in kind, varying only in degree, and consisted in the admixture of genuine mustard with immense quantities of wheaten flour, highly coloured with turmeric."

Mustard, when used in moderation as a stimulating condiment, is wholesome. Its principal use in medical practice is in the well-known mustard plaster, or cataplasm, as a counter-irritant. This application is made in various ways: when speedy energetic action is required, it is best obtained by mixing good *fresh* mustard with *water*, as for the table, and spreading on calico or paper. It is well to interpose a piece of thin gauze or muslin between the mustard and the skin; this does not in any way interfere with the action of the application, and prevents portions of the mustard adhering to the skin, and irritating it, after the removal of the cataplasm. Some persons erroneously mix the mustard with vinegar, thinking to render its action stronger: this is a mistake, as it has the reverse effect. Others mix with one-third or one-half flour, or bread crumb, which modifies the power of the remedy, and is all very well when modified and longer-continued action is desirable, not unless. The usual length of time a mustard plaster can be borne, is from twenty minutes to half an hour, and even in this time it often produces blistering; it always leaves for some time a deep re mark on the skin, a fact not to be forgotte in the case of females. When mustar plasters are applied to any one in a state o insensibility, they should be removed withi the half-hour; if allowed to remain, shoul the person recover, troublesome ulceratio may be the result.

From their familiarity and accessibility mustard plasters are apt to be applied some what too indiscriminately, both domesti cally and professionally, and in many case where a hot bran poultice would be muc more soothing and beneficial; they ofte cause much irritability, and if applied nea the spot where inflammation is going on, a in the case of the throat, seem rather t aggravate than to relieve. In the case of lady under the author's care, the applicatio of a mustard plaster to the lower part of th spine, gave rise to effects resembling those produced by the inhalation of laughing gas.

As an internal remedy, mustard is a saf and effectual emetic, in doses of one, two or three tea-spoonfuls in six or eight ounce of water. The seed of the white mustard swallowed whole in table-spoonful doses was, some years ago, in much vogue as stomachic remedy, but is now little used It probably produced any benefit it effected by its mechanical action upon the alimen tary canal.

Refer to—*Counter-irritation*.

MUTTON,—when tender, is the mos best adapted for invalids, and persons o weak digestive powers. The best mutto chops are those cut out of the centre of a leg

Refer to—*Broiling—Cookery—Food, &c.*

MYRRH—is a gum resin, the product o a tree native to Arabia, Abyssinia, and th countries bordering the shores of the Re Sea; from which the drug is chiefly brought Myrrh is a stimulant expectorant, an enters into different medicinal compounds.

The tincture of myrrh forms one of th most agreeable washes in affections of th mouth, in the proportion of half an ounc of tincture, to half a pint of water, and few drops upon the tooth-brush, is a mos excellent habitual application in cleansin the teeth, especially if the gums are wea or spongy.

NÆVUS.—See *Mother-mark*.

NAILS.—The nails, like hair, may b regarded as prolongations from the epidermis, or outer skin; they are formed o flattened cells containing horny matter, an spring from a fold or matrix in the tru skin, about two lines in depth. At th bottom of this groove or fold, there ar

of papillæ, or little vascular points,
uich the nail is developed, and is
lly being pushed forward by the
of new matter to its root. At first
is thin, but it acquires thickness in
ress forwards, by the addition of
ers of cells to its under-surface,
lls being also formed by papillæ,
kewise serve to retain the nail in

ire apt to be cast off after injury,
principal and most troublesome
to which they are liable, and
rly the nail of the great toe, is
ing"—that is, ulceration, formed
lge of the nail, and constantly kept
e irritation which produced it in
instance.* There are many pallia-
iods of treating this affection, such
se of caustics, scraping the nail
.; but perhaps there is no certain
reatment, but the thorough removal
tire half of the nail up to the root,
ffending side. This, of course,
to be done by a surgeon. The
ce of the nails is often indicative of
ional tendency, particularly the
red nail of the consumptive. †
o—*Skin.*
HA.—The term is now applied to
parent colourless fluid obtained by
n from petroleum, a bituminous
, formed probably by the action
upon beds of coal. Naptha has
ntly lauded as a remedy in con-
, but is not much in use. ‡
OTICS — are medicinal agents
ninish the activity of the nervous
roduce sleep, and in most instances
in, but which also are capable, if
small repeated doses, of exciting
ous system; by this they are
hed from the class of medicines
edatives. The class of narcotics
des anodynes. The only narcotics
ay admissible in the domestic
nedica are—
ior,
ck,
ne,

e,
,
nonium.
o separate articles.
EA—or the sensation of sickness,
clination to vomit, is best known
ividual experience of the sensation.
gh the feeling of nausea itself is
to the stomach, and may be due to
nnected with that organ simply, it
frequently originates in disorder in other and distant parts of the body, a fact which often constitutes it a valuable symptom. Causes which act directly upon the brain are among the most frequent originators of nausea, and there is every reason to believe that the sensation from which the term is probably derived—sea-sickness—is primarily excited in the brain itself. As all know, a blow on the head occasions nausea and vomiting; severe injuries in other parts of the body, such as a dislocation, also occasion sickness by acting indirectly upon the stomach; the nausea of pregnancy is another example of this sympathetic nausea. Disgusting odours are instances of the same thing. The action of drugs of an emetic character must be accounted for by their influence on the nervous system, for they act equally well as nauseants, if injected in solution into the veins, as if they were swallowed. Lastly, the presence of indigestible food, or of bile, &c., in the stomach itself, will also cause nausea, which may also be produced by simple over-distension of the organ by gas or fluid. The instances given of sympathetic nausea, will explain, how it comes to be a valuable guiding symptom in the investigation of disease. Incipient or advanced affection of the brain; gall-stones; stone in the kidney; disease of the womb; pregnancy, and many other conditions of various organs, giving rise to the sensation of nausea, or to actual vomiting.

The complete relaxation of the nervous system which occurs in an individual under the influence of nausea, renders its existence favourable to the performance of certain operations upon the body, such as a reduction of a dislocation, or of a rupture; it is, therefore, the practice of surgeons to induce it artificially—as by the administration of tartaric emetic—for the above ends. The means of relief in nausea, and its very frequent accompaniment, vomiting, must, of course, depend upon the cause. When dependent upon brain affection, remedial measures are of but little service, but in this, as in other cases, may be resorted to. Effervescing draughts, with lemon-juice, will often be extremely useful. Creasote is effectual, especially in sea-sickness — see *Creasote.* A tea-spoonful of magnesia in a glass of sherry has been found a good remedy, but one which is inadmissible in head affections; a mustard-plaster to the pit of the stomach may be used with advantage. When the nausea is thought to be dependent upon the presence of bile or other matters in the stomach, it is soonest relieved by exciting vomiting, which is generally easily effected, either by

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there is any tendency to this observed, the nails ought not to be cut or rounded off at the corner,
d to grow quite square and large; boots should be worn so as not to press at all upon the nail.
sumption, as well as in almost all chronic chest diseases, accompanied by emaciation, the nails
culiar curved and "clubbed" appearance, quite familiar to medical men.
been of use to allay the vomiting in consumption, which follows a fit of coughing—dose, five
with half a drachm of Compound Tincture of Cardamoms in a little water. Naphtha has also been
e treatment of itch, but is inferior to other applications.

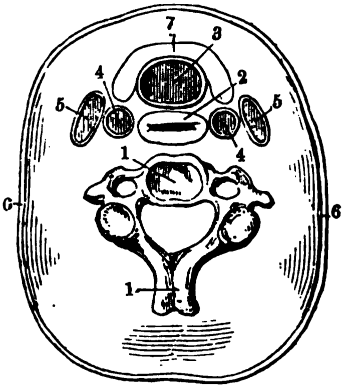
means of luke-warm water alone, infusion of chamomile, or at all events by a small dose of ipecacuanha. After the stomach has been cleared, effervescing draughts will be at once grateful and beneficial.*

Refer to—*Effervescing, &c.*

NAVEL.—See *Child-bed, Children, &c.*

NECK.—The bond of connexion between the head and the trunk of the body, is perhaps the most important region of the frame; certainly it is so in a surgical point of view, on account of the numerous important parts it comprises. The fig.—A—

A



which represents a transverse section of the neck, will best show the position of the chief vessels, &c.—1, 1—is one of the vertebræ of the neck, in front of which, somewhat flattened, as at rest, lies the œsophagus, or gullet—2; and anterior to this, the windpipe—3; on either side are placed the great vessels of the neck; these are the great, or "carotid arteries"—4, 4—and close to them—indeed, included within the same covering or sheath—the internal jugular veins—5, 5. All these parts, besides nerves, glands, the external jugular veins, and the muscles of the neck, are included within the surrounding skin—6, 6. The "thyroid gland"—7—which becomes enlarged in swelled neck, or bronchocele—see *Bronchocele*—lies in front of the windpipe.

Diseases which affect the parts situated about the neck, such as its glands, &c., fall to be considered under other heads, and need not be enlarged upon here; and under

such articles as *Hanging—Gullet*,
also includes *Choking—Artery*, &c.,
found information concerning the ac
to which this region and its parts are
There remains, however, for conside
the effect of mechanical impediments
circulation of the blood in the nec
nected either with clothing, or with
muscular movements of which th
under consideration possesses so
range. Some persons, particularly
with short necks, or with tendency t
plexy, epilepsy, &c., are much more
to be affected than others, by an
which, even for a very short time,
the free flow of blood through the
downward, from the head; and suc
sons ought to be especially carefu
nothing they wear about the neck bec
the slightest degree tight, not simpl
the face is looking straight forwa
when it is turned from side to side.
occurred, that a person liable to head
has fallen down insensible, in conse
of the simple fact of turning th
rather more to one side than usual, a
giving a little extra tightness to a
collar. It is well known, too, th
tight stock of the soldier has been th
of numerous apoplectic and other aff
in consequence of its effect in comp
the large vessels of the neck. A
caution is requisite with regard to ch
Accidents have occurred in consequ
nurses and others tying too tightly—
common practice—the strings of the
cap, which, perhaps, become still
tightened by some movement during
From a similar cause, arises the
which men incur from sleeping
unfastening the usual clothing ab
neck; apoplexy may result. But n
may head affection result from ti
around the neck externally; it may,
predisposed, be the effect of the ac
the muscles alone; these, if the
turned strongly to one side, exert
pressure upon the veins and impe
flow of blood, damming it up towa
head. On this account, persons
liable to over-fulness of blood, ough
on their guard against such sudden
ments.

Wry neck is caused by the undue
nent contraction of one or more
muscles on one side of the neck.
remediable by surgical operation.
ferent form of wry neck, or, at least
affection closely resembling it, is the
of paralysis of the muscles on on
permitting those on the other to dr
head towards their own side. Stiff

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* The Chloroform Mixture, or Julep, is a useful and pleasant remedy for nausea—see Chloroform.

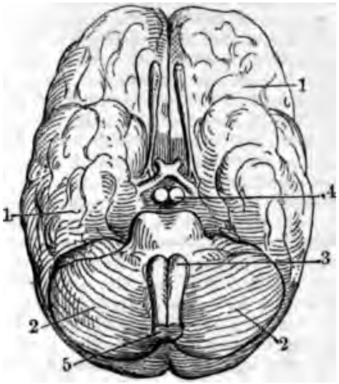
of rheumatic affection of the

SIS.—Death of a portion of bone.

US SYSTEM AND NERVES.—
sion of a system of nerve tissue,
f distinction between the animal
nt; the latter exhibits no trace
ven in some of the lowest tribes
rmer, which are scarcely dis-
e from vegetables, it has hitherto
ected. Where a nervous system
it is always found to be com-
wo parts, one of which is white
in appearance, and when exa-
ler the microscope, presents a
fibrous structure; the other is
h grey colour, and semi-trans-
d consists of cells or vesicles
granular matter. The presence
wo forms of nervous substance
tial to the working, so to speak,
aratus. In the larger nervous
h as the brain, the distinction is
ble, as any one may verify who
e trouble to examine the brain of
The opaque white nerve matter
larger proportion of the brain,
row, and nerves; the grey is
ngly distributed, and is evidently
tus in which the nerve force is
the tubular substance acting the
conductor. This is more appa-
. the latter is thrown into the
e nerves, or cords of nervous
ich are distributed throughout
These nerves, at their origin, are
with the grey substance, with
s of which their fibres are inter-
Where this intermingling takes
enlargement, or as it is named a
" is formed. In the lower tribes
, in which the nervous system is
a degree corresponding with the
of their structure, these "gan-
embling knots upon the nerves,
y possess in lieu of a brain, but
le is ascended towards man, we
ervous system become much more
veloped, and the nerve substances
r aggregated into masses, which
lly protected from all external
d from which the nervous cords,
tors, or as they are usually called
' proceed to all parts of the body,
g inclosed within its own proper
d dividing and subdividing to be
d to every portion of the frame,
to some, such as the ends of the
ips, &c., their branches are more
llotted than to others.

n, the great nerve masses are divided into the brain, or cerebrum -fig. A. 1, 1—the little brain, or cerebellum—2, 2—the medulla oblongata—3—the ganglia of the special senses—4. These parts are all contained within, and protected by the hard bony skull. Continued from the medulla oblongata at 5, there is the spinal cord, or marrow, which is contained within its own special canal carried through the bodies of the vertebræ of the spine, and thus most effectually guarded. The annexed figure represents the base or under side of the brain. The brain—see *Brain*—which in man and the higher animals constitutes so large a mass of the nervous system, is itself destitute of sensation, for it may be, and after accidents often is, cut, without the individual—although perfectly conscious — having the slightest sense of pain. Neither does its presence appear necessary to the continuance of the mere animal life of the body; for if—as has been proved by experiment—the brain of such an animal as a rabbit, be gradually and carefully removed, the animal still continues to live, and to perform the various functions of animal life.

A



The brain is undoubtedly the organ upon which the manifestations of will, intelligence, memory, &c., depend, and by which the conscious mind of man or animal is linked with the processes and actions of the body, by means of other portions of the nervous system.

The cerebellum, or little brain, is believed to be endowed with the function of regulating in unison, and harmonizing, the various muscular movements. The medulla oblongata is connected with the processes of respiration, mastication, swallowing, &c., and on the due performance of which the preservation of life depends.

The ganglia of the special senses develop the powers of sight, smell, taste, &c., and, lastly, the spinal cord appears to be most essentially connected with animal life, particularly with the powers of locomotion, independent of the conscious mind of the individual, possessing in itself, powers of sensation unconnected with the brain. These powers are exhibited in what are called the "reflex" nervous actions; that is to say, supposing—as sometimes occurs from injury, or is done for purposes of experiment in animals—the spinal cord is severed at any point, all sensation, all power of the will over the parts of the body below the line of severance is totally lost; but yet, irritation, such as the prick of a pin, to such a part as the foot, will cause the leg to be retracted—evidently showing that the sensation excited by the pin was felt, so to speak, by the spinal cord through one set of nerve fibres, and "reflected" from it again through another; causing contraction of the muscles of the limb—independent either of the sense or will of the individual.

From the various masses within the head, nine pairs of nerves proceed; from the spinal cord, or marrow, thirty-one pairs; the former passing out at various holes in the skull, the latter between the vertebræ.

In addition to the nervous system above described, there is the sympathetic, or ganglionic system, situated chiefly on the inside of the spinal column, and characterized by the possession of distinct separate ganglia and nerves, which are connected with the great nervous system on the one hand, and with the viscera of the organic functions, such as that of digestion, &c., on the other.

As the diseases and disorders of the nervous system fall to be treated of under other heads, such as *Paralysis*, *Delirium*, *&c.*, they require no further mention here.

Refer to—*Neuralgia*.

NERVOUS DISEASE, or NERVOUSNESS, is a term usually applied to an indefinite affection—a mixture of mental and bodily disorder and irritability, generally the product of weakness. The active countryman, the hunter, and those who take much exercise in the open air, do not suffer from irritability, or nervousness, which attacks the sedentary—those who exhaust the brain by too great mental exertion, or the body by dissipation. Females are much more liable to nervous disorder than males, independent of hysterical affection, which constitutes one of the most marked phases of the malady, and many of the remarks on which apply to the present subject.

In nervous disorder there is usually great susceptibility to external influences; and at the same time mental emotions, whether of joy or grief, fancied or real, exert much influence over the body and its functions. The heart palpitates, the hand trembles, the face flushes under the most trivial excitement; much of this is undoubtedly due to constitutional timidity; but it is also notably increased in debilitated states of the constitution; and those who have never been what is called "nervous," are apt to become so, in some particular conditions of impaired health. The affection, indeed, is very nearly akin to hypochondriasis; it is essentially a disorder of weakness, and is relieved by whatever increases temporarily or permanently the power of the nervous system. The temporary relief to nervous sensations which is afforded by alcoholic stimuli, is very apt to lead those who suffer from them to put too much trust in, and to resort too habitually to the use of those palliatives—a practice which must be followed by pernicious consequences; sometimes, too, opiates are habitually made use of, and are no less injurious.

Undoubtedly, when properly employed, alcoholic stimuli, and even opium, are valuable in the treatment of nervous disease, but they must never be substituted for more permanent means of invigoration, particularly *regular and sufficient exercise in the open air*, on foot or horseback, good nourishing diet, with a sufficient amount of animal food, and attention to the bowels and the state of the skin. The producing cause, whether excessive mental exertion, sedentary employment, late hours, or excess of any kind, must of course be modified as much as possible. The shower-bath is often recommended, and often useful in these affections, but some persons cannot bear the shock; when this is the case, the cold or tepid douche down the back does much good, particularly if there be any tenderness of the spine on pressure, a fact which should always be investigated in those who suffer much from nervous disease, it very commonly exists and is overlooked. When the tenderness is at all marked, it will require special treatment, by counter-irritation, &c.; but this, as well as the treatment of aggravated cases of nervous disorder, will be best managed under the care of a medical man. In addition to the regulation of the bowels by the warmer purgatives, or by clyster, quinine and the preparations of iron are the most generally useful remedies; tincture of valerian, sal volatile, and stimulant carminatives may be used as palliatives during an aggravated attack, but should be sparingly resorted to.

Refer to—Hysteria—Indigestion, &c.

NETTLE.—The common nettle belongs to a tribe of plants which includes the fig, the hop, and others used as food, and is itself eaten when cooked as a wholesome, almost as a medicinal, article of diet, in some parts of the country. It is diuretic. The fresh juice of the nettle has been highly recommended in cases of internal hæmorrhage, particularly from the lungs and womb. The dose, one tea-spoonful three times a day.

Refer to—Hemorrhage.

NETTLE RASH.—See *Skin.*

NEURALGIA—literally, pain in a nerve—is also known as "rheumatism of the nerve," or "tic doloureux." It is perhaps one of the most painful affections to which the human body is liable. In most instances the pain is the only symptom; in some it is accompanied with marked constitutional or local ailment. The exact nature of neuralgia is obscure; probably, the one effect, pain in the nerve, may arise from various causes; it is certain that some of the most intractable cases have been connected with diseased growth of bone in different parts of the head or face, especially about the canals through which the nerves pass; other severe cases have been found to depend upon irritation, excited by foreign bodies acting upon some of the nerve branches; decayed teeth are not unfrequently connected with the disease. The most general seat of neuralgic pain is in the head or face; but the fingers, the chest, the abdomen, &c., may any of them constitute its site. When the great nerve of the leg is affected with neuralgia, the disorder is known as sciatica.

The pain of neuralgia is described as "plunging," darting pain of the most intense and agonizing kind[*] but except in long continued cases, there is no external mark—no redness, swelling, or heat, to indicate the disorder to others. After a severe attack of neuralgia, the skin is often left tender, and when the pain has recurred frequently, exquisitely tender swelling of the part has been known to come on. The access of the pain is usually sudden, its remission equally so, and it is generally periodical in its attacks; it is suspended during sleep. The suddenness of the pain, its character—often compared to severe tooth-ache—the absence of inflammatory symptoms, and its periodical returns, sufficiently mark the disease.

The exciting causes of neuralgia are, especially, damp and cold, or damp alone, if combined with malaria, such as causes ague; exposure to currents of cold air, especially if the individual is heated, frequently originates the disease: in this way, railway travelling has proved a fertile source of neuralgic affection. Debility of constitution renders the individual much more susceptible to those and other exciting causes; it has often, too, been traced to anxiety of mind. Some sudden attacks of neuralgic pain in various parts of the body, have been traced to temporary stomach disorders, such as superabundant acid, and have disappeared as soon as the cause has been rectified.

The severe pain which attends neuralgia, quickly drives the sufferer to seek medical advice; and without doubt, the safest plan is to have the exciting cause of the affection detected if possible, and as soon as possible obviated, before the disease has become fixed. If the person is resident in a climate or situation likely to excite it, some change should, if possible, be made; this will probably be most beneficial if the removal be to a dry warm air; but should disease have commenced in a cold dry district, change to a moist, humid, but warm one, will probably offer most advantage. If disorder of the digestion exists, it must of course be rectified—see *Indigestion*—after that, if the disease still continues, quinine, given in one or two grain doses, every six or eight hours, will most probably be of service. Carbonate of iron, in from half-drachm to drachm doses, is a most useful remedy, especially in weak constitutions; but these are constitutional curative measures which will be most safely trusted to medical hands. Blisters behind the ears, or at the back of the neck, are often valuable aids in the treatment of facial neuralgia. The late Sir Charles Bell is said to have found the following most successful in some cases of obstinate neuralgia, probably caused by disorder of the alimentary canal. One to two drops of croton-oil is mixed with one drachm of compound colocynth pill, and of this one-twelfth, or five grains, is given at bed-time, along with ten grains of compound galbanum pill. The remedy is more suited to persons of strong habit of body, than to the weakly.

During the paroxysms of agonizing pain, anything which will, or is likely, to relieve should be tried, even in the absence of a medical man. A sponge or piece of flannel, dipped in boiling water, and applied as hot as it can be borne over the site of the pain, will often allay its severity, or remove it altogether. Opium internally may be given in very severe cases, or rubbed on the part. Chloroform applied over the affected part, by means of a piece of lint soaked in it* is a very successful application, and should be tried if it can be procured. Lastly, the author can speak from his own experience, that the Pulvermacher electric chain will, in some cases, confer speedy relief.† Leeches are sometimes of use.

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[*] In very severe cases of this kind, chloroform is often administered by a medical man with advantage, for it not only relieves immediately, but the pain often remains absent for a long time, if not altogether, after the effect of the Anæsthetic has passed off.

Ear-ache is a form of neuralgia distinguished from inflammatory ear-ache ending in abscess, by the neuralgic characters already described. It is of course treated as neuralgia.

Refer to—*Nerves—Sciatica, &c.*

NEUTRAL SALTS—are compounds of an acid and an alkali, in which the two constituents completely neutralize one another; the resulting compound having neither acid nor alkaline properties.

NIGHT.—The period of darkness consequent upon the absence of the sun's rays, is one which unquestionably exerts considerable influence over the states and health of the human body. The effect of light upon the body, and the injurious consequences of its withdrawal, has already been treated of, and to that article the reader is referred for information, also to articles, *Early Rising*, *Breakfast*, *Sleep*, *&c.* With the exception of certain animals, fitted by their constitution for nocturnal activity, the majority, including man, are evidently intended by Providence to rest and sleep during the hours of darkness; animals, governed by instinct, do so, uncivilized man for the most part does so; but the member of a civilized community necessarily requires in some degree to modify these things, and is endowed with the capability of doing this, *within certain limits*, without injury to health; if these limits are exceeded, he suffers.

It is often asked: "Is it not the same thing whether I sleep in the day or the night, so as I get enough?" It is not the same thing. Independent of the argument that the natural laws of our constitution can never be infringed with impunity, and that man cannot, without injury to health, spend those hours in sloth and sleep, during which he ought to be active under the sanative influence of diffused daylight, experience has long testified, that during the night, many sources of disease act more energetically upon those exposed to them. One often recorded experiment sufficiently illustrates the fact. The colonels of two French cavalry regiments had to move
their respective corps a considerable di
tance during hot weather. One, thinkin
to avoid the heat of the day, moved h
regiment during the night only, the oth
followed the reverse plan; the latter at t
end of a week or ten days arrived with h
men and horses well, whilst the other h
many laid up with sickness.

As, however, in northern countries,
winter, the term of daylight is too co
siderably curtailed, and the hours of dar
ness too prolonged, to permit of their
being spent in sleep, it becomes a questi
which portion of the latter may most a
vantageously be devoted to wakefulne
under the influence of artificial light. E
perience has proved, that to rise early a
spend the morning hours by *artificial lig*
is not by any means so salutary a custo
as to add to the latter part of the day
the same means. This is probably, in pa
due to the greater activity of the nervo
system in the after-part of the day, causi
the absence of the stimulus of the su
light to be less felt.

Refer to—*Sleep.*

NIGHT-BLINDNESS—is a species
periodical "amaurosis" to which so
persons are liable, probably, in consequen
of the nervous retina of the eye havi
become exhausted by exposure to too gre
light during the day. The affection p
vails chiefly in southern climates. It r
quires proper medical treatment. The gla
of the mid-day sun should be avoided.

Refer to—*Amaurosis—Eye.*

NIGHTMARE.—See *Sleep.*

NIGHTSHADE.—*Belladonna.*

NIPPLES.—The nipple of the fem
breast is chiefly composed of tubes whi
give passage to the milk. During pre
nancy, and at child-birth, it ought to beco
more prominent and increased in size; bu
sometimes, from the pernicious pressure
the stays in early life, it has become
imbedded in the breast, that it cannot
developed, consequently, when the time
suckling arrives, it is perfectly impossi
for the infant to seize it. This is a sta
of things which often gives much troubl
causes the individual much pain and suff
ing, and not unfrequently lays the found
tion of abscess of the breast. When th
condition of the nipple exists, every *eff*
should be made during the time of pregnan
to get it into a better and more promine
state, by means of the glasses adapted
the purpose, or by suction exerted by t
mouth of an adult: after child-bed, the sa
means should be assiduously practised. T
greatest suffering, however, connected wi
the nipple during nursing. is in consequen

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* An old-fashioned watch-glass, bound over the lint so as to prevent the evaporation of the chlorofo
greatly increases the effect. If retained long enough, it will blister the skin. Aconitine, Atropine, Veratri
etc., are much used by medical men in the form of ointments or liniments for the relief of neuralgia.
Syrup of Iodine and Quinine is one of the newest preparations, and promises to be one of the best for
treatment of certain cases.

† The Electro-Magnetic machines, such as Kidders', produce an immediate and powerful current, which
some cases relieves quickly and effectually.

' its becoming excoriated and chapped. his may be greatly prevented, if, during e latter months of pregnancy, trouble taken to bathe the nipples night and rning, with a mixture of brandy and ter, one part of the former to three or r of the latter. When the nipples are lined to become sore from nursing, which generally within the first fortnight; the t, and, indeed, almost a certain remedy, the tincture of catechu.—See *Catechu*. rious substances, such as cows' teats, pared nipple shields, &c., have been d to cover the nipple in such cases, but y do not answer well, and it requires a y strong child to draw the milk through m. If the nipples are harsh and dry on surface, glycerine will probably be nd of more service than catechu, and if y do not heal up under these or similar plications, the child must be kept from king for a short period, the breasts being ptied by other means, and the milk thus wn, given to the child.

The late Sir Astley Cooper's favourite ion in sore nipples was composed of rax, one drachm; spirit of wine, half an nce; and water (soft) sufficient to make the half-pint lotion.*

Refer to—*Breast—Child-bed, &c.*

NITRATES—are salts, such as nitrate of tass—saltpetre—of which nitric acid is e of the components. See *Potass*.

NITRIC ACID, or Aqua-Fortis—is one the most powerful of the mineral acids, d is strongly corrosive; it is obtained m saltpetre by distillation with oil of riol. Pure nitric acid is composed of rogen and oxygen gases, in the propor-n of one of the former to five of the latter, d should be colourless: it is usually met th in the shops of a light straw colour, d contains water.

Nitric acid is used externally by surgeons a caustic, or rather as a corrosive; innally it is employed as a tonic, especially some forms of dyspepsia and liver disder, the dose two to eight drops well luted with water. Diluted nitric acid, mposed of one part of the common comercial acid, and nine parts of water, is used more convenient than the strong acid; of is, the dose is from twenty to thirty ops.

Poisoning by nitric acid or aqua-fortis metimes occurs, and must be treated in a nner similar to that recommended in isoning by muriatic acid, under article hlorine."

NITROGEN GAS—is one of the elementy gases, important from its forming nearly r-fifths of our atmosphere, and from its numerous combinations.—See *Ammonia—Azote—Nitric Acid, &c.*

The existence of nitrogen in animal matters was formerly thought to constitute one great distinctive mark between them and vegetable substances, but this idea is now known to be erroneous. Certainly, the *abundant* presence of nitrogen in the constituents of the animal kingdom, is truly characteristic, compared with its more sparing amount in vegetables; but it is more than probable, that animals, in the first instance, derive the greater part of their nitrogen from vegetables, which constitute the medium for its conveyance to them from the inorganic kingdom.

Refer to—*Aliment—Blood—Food, &c.*

NITRO-MURIATIC ACID, or Aqua-Regia,—as it has been called from its power of acting upon gold, is used in medicine as a tonic, and it is a very valuable one. It may be prepared sufficiently well, by mingling equal measures of nitric and muriatic acids in their *undiluted* condition, and allowing them to stand for a few minutes before water is added. The dose is four to eight drops well diluted in water.†

NITROUS, or Nitric Ether, or Sweet Spirit of Nitre,—is prepared by the action of nitric acid upon alcohol. It is one of our most valuable diuretics, being also stimulant and diaphoretic, and is much used domestically as a remedy in common colds, &c., and to increase the flow of urine. The dose is from half a drachm to a drachm and a-half, given either in water or gruel. When badly made, or too long kept, sweet nitre is apt to contain much acid, which may cause pain at the stomach; the fact may be known by the ether effervescing with carbonate of soda.

NOCTURNAL DISCHARGES of seminal fluid are apt to cause much mental uneasiness and physical debility in those, generally young men, who are the most frequent subjects of them. Unless very excessive, there is no reason that they should be regarded in the almost morbid way they often are. Abundant exercise, cold bathing, either general or local, and where there is not much debility, the disuse of alcoholic stimuli, the avoidance of whatever may tend to excite the secretion in question, and the use of the tincture of muriate of iron, in ten or fifteen drop doses twice or thrice a-day, will, in most cases, effect a cure. It is of great importance, along with these measures, to keep the bowels perfectly open, and for this purpose, gentle salines, senna, castor-oil, sulphur and magnesia—from half a drachm to one drachm of each

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[*] Great advantage is derived in the treatment of sore nipples by the use of "The Glass Shield with atic Tube," manufactured by Messrs Maun, of Aldersgate Street.

[†] Refer to—*Flatulence*, foot-note.

for a dose, in milk—or cool clysters, are preferable to pills which contain aloes.

In such cases, one caution is of the highest importance: *avoid the advertising quacks.** The painfully nervous state of the mind in those who suffer from the above affection, render them most timidly credulous, and this fact is made use of by designing knaves—first to frighten, by attaching exaggerated importance to every slight symptom, and then to fleece those they have thus gulled. Persons who are affected with the disorder in question, by confiding in some medical man may speedily be relieved.

NODE—is an enlargement of a bone, caused by inflammation of the bone itself, or of its covering "periosteum;" the shin bone is very liable to the disease, often in consequence of venereal affection. Whilst active inflammation of the part is present, perfect rest, leeches, fomentations, poultices, and other remedies, internal and external, recommended in inflammation generally, may be used, and afterwards blisters. A medical man should be called in.

NOISE IN THE EARS.—See *Ear.*

NOLI ME TANGERE—LUPUS.—See *Skin, Diseases of.*

NOSE.—The organ of smell is so situated above the mouth, that by it, the odour of whatever is put into the latter must be perceived in the first instance. The visible portion of the nose is chiefly made up of bone at the upper part or bridge, of cartilage at the expansive nostrils. The internal portion of the nose consists of a cavity—which communicates with the throat, fig. A—formed in the bones, which are expanded in such a manner as to offer a wide extent of the membrane—fig. A 2—on which the nerves of smell are distributed, to the action of the air bearing the odoriferous particles. The two nostrils are separated from each other by a bony cartilaginous "septum," or division; they are lined by the mucous membrane which secretes the peculiar mucus of the nose. This membrane is continuous with that of the eyes, through the canal or "lachrymal duct,"—see *Eye,*—which conveys the superabundant tears into the nostril; it is also continuous with that of the throat. As might be expected, the nose, from its position, is much exposed to accident.

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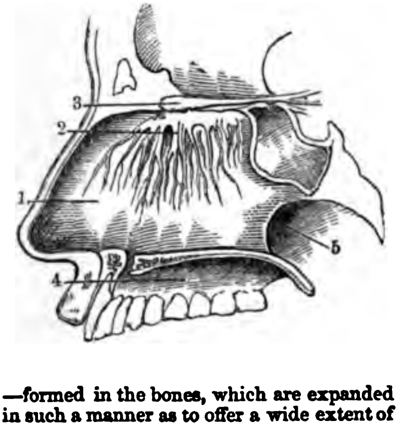

Fracture of the bones is not uncommon, and, like other accidents to the organ, is liable to be followed by much bleeding; if the nature of the accident is indicated by the alteration in shape and mobility of the parts, &c., the nose may, if a medical man is not at hand, be restored somewhat to shape, by a bystander, the fingers on the outside being assisted, if requisite, from within, by means of a firm quill, or piece of wood covered with lint, passed up the nostril. After the displacement has been rectified, the person should be kept perfectly quiet, the injured parts covered with cloths dipped in cold water; and if the habit of body is full, a sharp purgative administered, for the possibility of the inflammation excited extending to the brain, must not be forgotten.

Bleeding from the nose.—See *Hemorrhage.* The nose, like the ear, is very liable to be made by children the receptacle for anything that will pass into it; beans, buttons, stones, or the like. A few minutes before commencing this article, the author was called upon to extract a considerable piece of tobacco pipe, which a child had pushed up the nose almost out of sight. When the things introduced swell, by absorption of moisture, there is often considerable difficulty in their extraction; sometimes they have been in the nose, unnoticed, for days or weeks, and are not discovered until inflammation of, and perhaps discharge of matter from, the lining membrane attracts attention, a reason, when such symptoms occur in a child, for always examining the nose for the presence of foreign bodies. The extraction of a foreign body from the nostril is always best done by a surgeon; others are very apt to make the matter worse by pushing the foreign body further in; if, however, circumstances render it desirable to attempt the extraction without waiting, it must be done by means of the flat end of a probe, or of a bodkin, bent about the eighth of an inch, nearly at right angles with the rest of the strument, which bent end being carefully ssed beyond the body, must be used as a ook to draw it out. Sometimes, when the reign body is not very far in the one nostril, f that on the opposite side be closed, and he child can be made to blow forcibly hrough the other, the obstruction will be hot out.

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* See Appendix—Quacks, advertising.

The lining membrane of the nose is liable o become inflamed and ulcerated. In a ild case, washing with warm water—if ecessary, by means of a syringe—containg a little carbonate of soda in solution, ill be of service. It is a common popular rror to suppose that the nose communiates with the brain, it is sufficient to mark that it does not.

NOSOLOGY.—The scientific classificaion of diseases.

NOSTALGIA.—See *Home-sickness.*

NOSTRUM.—See *Quackery.*

NOURISHMENT.—Refer to—*Aliment —Digestion—Food, &c.*

NURSE—For Children.—The subject f wet-nursing, and the objections to it, ave already been alluded to under article *hildren.* When a wet-nurse is absolutely ecessary and resolved upon, the selection s best left to the medical man, who will ndeavour to procure one whose confineent was as nearly as possible at the same me as that of the mother's, whose child e is to nurse; he may at the same time ail himself of the aid of the microscope in amining the milk, if *there is much power hoice.* The following characteristics of ood wet-nurse are laid down by M. ergie, who, in 1838, had the responsiy of choosing a nurse for the infant t of Paris. "A good nurse should be twenty-five to thirty years old, strong nstitution, full-chested, of sanguine hatic temperament, brown-haired, havhite healthy teeth and well-coloured She should have pyriform breasts, well-formed nipples, and without too development of veins. The milk into a spoon should be white, with t blueish tint, its taste saccharine; it not be too thick." In scrutinizing, r, the physical qualifications of a se, it is of the highest importance mental ones—disposition, temper, ould not be overlooked; for, indeof the influence which *may* be pon the infant by the psychical quahe being from which it draws its first ent, we know that the emotions of always do affect the milk in some vay, and cause injury to the child ath itself from convulsions, has consequence to an infant whose mother had, shortly before nursing it, given way to violent passion. The late Sir Astley Cooper held the opinion, that the anxiety of a mother for her child during teething, by acting on the milk, gave it an aperient, and, therefore, a salutary property. Again, all nurses well know how much the quality of their milk is affected either by food or medicine, and this is another reason why a wet-nurse should be selected, if possible, who is likely to have sufficient self-control to regulate her diet. The difficulty in this, is one, at least, of the objections to wet-nurses, especially if kept in the houses of their employers, where they are tempted with unaccustomed and richer food and drink.

The return of menstruation, in a nurse, is always an objection, although perhaps not an absolute one, if merely an occasional occurrence; the child, however, should be withdrawn from the breast during the period, and managed as if nursed by hand —see *Children*—the breasts being kept duly emptied by artificial means. See *Child-bed.* In the event of slight indisposition in a nurse, the same plan may be pursued. Perhaps no diet is more suitable for a wet-nurse than one which embraces a large proportion of milk and farinacea, with a moderate proportion of animal food, and much mischief is often done to both nurse and infant, under the idea that an extra allowance of stimulant is required during nursing, from the very first. Strong healthy women require it not, and are better without it; some derive much benefit from a moderate allowance of malt liquor, after the first two or three months, whilst others, who are deficient in vital and digestive power, require it from the very first. Perhaps, nothing can show more strongly than these facts, which are well known to every medical man, the folly of laying down any fixed rule respecting the use of alcoholic stimuli by mankind generally. Medicines taken by the nurse may be so directed as to benefit the child, particularly such aperients as castor-oil, senna, &c. Saline aperients and acids generally cause griping in the infant.

With respect to nurses who have the charge of children in the nursery, it is sufficient here to remark, that good health, at least, should be insisted upon, particularly if the children sleep with them.

Refer to—*Breast—Child-bed—Children—Milk, &c.*

Nurses for the Sick.—Really good sick-nurses, who understand their business, are difficult to meet with, especially in the country; and it is to be lamented, when it is considered how much of the success of the best-directed treatment depends upon its being carried out and seconded by good and judicious nursing. A very young nurse is not desirable, and, perhaps, few are fit for the office under thirty years old; but a very old one is still more objectionable, when the infirmities, and often the irritabilities of age have come on: after sixty, this is too often the case.

It is sufficiently obvious, that those whose duty it is to wait upon the sick, to suffer the necessary confinement, loss of rest, and other depressing influences, should themselves have health as good as possible, and be possessed of strength and stature sufficient to enable them to give all requisite aid in lifting, &c. Activity, and order, and cleanliness, both in their own persons and about those they wait upon, are indispensable. All bad habits, such as snuffing, smoking, and it perhaps must be added drinking, are insuperable objections; likewise the habit or necessity of making unusual noises, such as humming, or habitual cough. Neither should nurses be great talkers: some patients are much annoyed with the garrulousness of their attendants. A nurse ought to be a light sleeper, awake to the slightest call or movement, and no snorer; a light mover about a room.

A good and obliging temper is of course highly desirable; equally so, sufficient good judgment in the management of the whims and peevishness of the sick, and to direct any little conversation into proper channels, avoiding all narrations of previous experiences, which are very apt to be indulged in.

Some amount of education is absolutely necessary—especially the ability to read writing. Without it, the most serious mistakes may, and have occurred.

In enumerating the qualifications of a good nurse, it is not expected that all these are to be found combined and in perfection in one or every individual, but some approximation, at least, to them should be attempted. Of course, in addition to the natural qualifications, experience in the management of the sick, is more or less requisite, and the more skilled the nurse in the performance of the needful operations of the sick-room, of course, the more valuable. Whilst laying down the qualifications for good nurses, one word may be said to those who employ them. If active, cheerful attendance is required, it must not be forgotten, that this is almost physically impossible, if a nurse be kept day after day, and night after night, confined in a close sick-room. Even if averse to it, both for her own sake, and for that of the patient, a nurse ought to be made to be out in the open air for exercise, for at least an hour in the day. There are few cases which will not admit of some member of the family taking her place for that time.*

Refer to—*Bed—Bed-room, &c.*

NUTS.—See *Chestnuts—Filberts, &c.*

NUTMEGS—are the produce of a tree resembling the pear-tree, which is a native of the islands of the Indian Archipelago generally, but its cultivation has been much circumscribed by the narrow policy of the Dutch. The nutmeg is the kernel of the fruit, which is about the size of a peach, and is inclosed in a shell, over which is spread the arillus, which is the mace of commerce—see *Mace*.—The properties of the nutmeg depend upon a fragrant essential oil which it contains. This is sometimes partially extracted by heat, and the nuts afterwards sold as fresh ones, being covered with powdered lime. This covering with lime, however, is also sometimes resorted to, simply to prevent the attacks of insects.

Nutmegs, as articles of diet, possess the advantages and disadvantages of spices generally.

Refer to—*Mace—Spices, &c.*

NUX VOMICA—is the seed of a tree the strychnos nux vomica, a native of India and the neighbouring countries. Its active principle is strychnine, one of the most energetic poisons known, though a valuable remedy in proper hands.

Strychnine is now much used for destroying vermin, and occasionally proves fatal to the human subject by design or accident. The symptoms produced in poisoning, either by nux vomica or by strychnine, come on quickly, in the form of violent spasms, affecting the entire muscular system, and death ensues from spasm of the muscles of the chest producing suffocation. Emetics in the first instance, cold affusion, and perhaps stimulants, may be used in such cases, but there is no known antidote. Medical assistance should be procured without delay.†

OAK BARK—is a powerful astringent, and may be used for the same purposes as others of the class. For domestic use, it has the advantage of generally being easily procurable. It is used in the form of decoction, made by putting from an ounce to an ounce and a-half of oak bark into a quart of boiling water, and boiling down one-half. In relaxed sore throat it is a useful gargle.

Refer to—*Galls.*

OATS,—as an article of diet, are generally ranked next after wheat as regards

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* For further information as to its uses for the sick the reader is referred to the Appendix, article—Nursing.
† See Article—Fat, foot-note.

power, the latter holding the first
consequence of its containing a
iount of gluten; in some respects,
the oat is the superior grain.—See
The oat is most largely used in
; the seed is there "kiln-dried,
of its husk and delicate outer skin,
. coarsely ground," in which state
utes "Scotch oatmeal." It may
ht that the cheapness of the oat
event its meal being adulterated,
recent examination of the subject,
ancet Sanitary Commission, it was
iat much of the oatmeal sold in
is adulterated with barley-flour,
ess nutritious article of diet. In
oatmeal is chiefly used for making
See *Cookery;*—but the meal, or
t-flour, prepared in England, is of
rior quality to the Scotch, and even
al is made professedly in imita-
he Scotch preparation, it is a very
stitute. In Scotland, oatmeal is
gely employed for the well-known
e," which constitutes the breakfast
at proportion of the population,
ost universally of the children of
s, and except, perhaps, for a few
a more wholesome one could not
. In a few individuals, the use of
auses heart-burn, and occasionally
and, of course, must then be aban-
One of the most beneficial properties
at, especially in the form of the
eal, is its aperient power; in many
the use of oatmeal porridge for
will entirely correct a tendency to
ion. The proper method of making
porridge is, to have the requisite
of water boiling *upon the fire*, and
le the meal into it from the hand,
constantly, not only at the time,
ng the twenty minutes that the
should be boiled. Sufficient salt
ing is to be added during the pro-
Scotland, the stirrer is generally
rood. When the mixture is boiled
ly, it must be poured into a saucer
late, till it is sufficiently cool. It
lly eaten with milk, but butter-
cle, or beer are also used. A pint
, and a tea-saucerful of oatmeal,
a good soup-plateful of porridge.
tmeal, coarsely prepared, is too
sed, especially in a dry state, it
e concretions in the bowels,—see
s,—but this effect never follows
moderate employment.*

o—*Grains—Groats—Poultice, &c.*

TY.—See *Fat.*

TRICS.—The art of midwifery.
ild-bed.

OCCIPUT.—The back part of the head.

OCCUPATION.—See *Artizan.*

ŒDEMA—is the term applied to the swelling caused by the effusion of serum into the cellular tissue beneath the skin.—See *Dropsy.*

ŒSOPHAGUS.—See *Gullet.*

OIL—from *Oleum*, derived from the name of the olive which yields the well-known oil.

Oils are the products of either the vegetable or animal kingdom; they are divided into fixed oils—which also include the fats,—and volatile oils. Oils are also divided into drying and non-drying, according to their power of solidification by absorption of oxygen from the air.

Fixed oils vary from the most limpid fluid, to the hardest suet, according to the amount of solid or fluid fatty matter in their composition, all fixed oils, and animal fats, being separable into two, and often three different principles; one named oleine remains fluid at the lowest temperature, the next, margarine, has a higher melting point, and the third, stearine, the highest of all. The separation—under the influence of cold—into oleine and margarine may often be witnessed in olive-oil in winter. Fixed oils are further distinguished by their leaving a greasy stain on paper, which is not dispelled by heat, and by their power of forming soaps with the caustic alkalies.

Volatile oils are of great variety; the odoriferous properties of the vegetable kingdom depending on their presence. These oils are generally limpid, should be colourless, but are for the most part slightly yellow; their taste is usually pungent. Like the fixed oils, the volatile oils cause a greasy stain upon paper, which, however, *entirely* evaporates under the influence of heat, thus affording an easy test of adulteration with a fixed oil, which is sometimes practised.

Some volatile oils, such as turpentine, oil of lemons, juniper, &c., are composed simply of carbon and hydrogen. Others, such as lavender, peppermint, &c., &c., also contain oxygen in addition,—camphor belongs to this division,—and a third section, those of garlic, mustard, &c., have sulphur added.

The principal fixed oils used in medicine are—

Almond-oil,
Castor-oil,
Croton-oil,
Linseed-oil,
Olive-oil.
Cod-liver-oil

They all possess, more or less, aperient properties. Almond-oil is chiefly used as an external application. The reader is referred to the separate articles for further information.†

Volatile oils are used chiefly for their pleasant flavour, and for their stimulant

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* ion of oats is a good diuretic for domestic use. To make it, a half-pint measure of oats should be
ree pints of water, till the decoction is reduced to a quart.

† g Oil, as a substitute for Cod Liver Oil—see Appendix.

rminative properties. They form a long
t :—amber, aniseed, bergamot, cajuput,
mphor, cassia and cinnamon, camomile,
oves, copaiba, cubebs, dill, fennel, juniper,
avender, lemon, marjoram, mint, orange,
eppermint, penny-royal, pimento, rose-
nary, rue, savine, sassafras, turpentine, &c.*

OINTMENTS—are greasy or unctuous preparations, about the consistence of firm butter; they are much less used as dressings in modern practice than they formerly were, and their number might be reduced with much advantage; they have been supplanted by the more elegant, cleanly, and in every way superior, water-dressing. Occasionally, a greasy application is requisite, and then nothing answers better than perfectly fresh lard, or sweet olive-oil, or, when fresh, the simple ointment, containing spermaceti or wax to give additional firmness. The form of ointment for purposes of counter-irritation, inunction, &c., is sometimes convenient, but even this, as in the case of tartar emetic, might be often avoided.

The ointments most likely to be useful for domestic practice are, antimonial-ointment, gall-ointment, hydriodate of potash-ointment, mercurial and red precipitate-ointments, simple or spermaceti-ointment, sulphur-ointment, and zinc-ointment.

The composition of these is given under the head of the active ingredient they contain. Simple spermaceti-ointment is made by melting together spermaceti five ounces, white wax fourteen drachms, olive-oil twenty ounces, stirring continually till the mass is perfectly cold.

One of the great objections against ointments is, that so many of them, if kept, become rancid, and thus form a most irritating application.

Refer to—*Dressing*.

OLD AGE.—See *Age*.

OLIVES,—the product of the *Olea Europæa*, or olive-tree, though used in the form of preserved olives, are better known as the source of the well-known—

OLIVE, or SALAD OIL, which is procured by crushing from the perfectly ripe fruit. Good olive-oil, is of a pale yellow colour, and should be almost free from either smell or taste. It is often adulterated with the inferior fixed oils. As an article of diet, olive-oil agrees well with many, and some persons find it useful as an aperient, but it is very weak in action. In pregnancy, however, with irritable and yet confined bowels, it occasionally answers better than the usual castor-oil. Olive-oil is most used in medicine as an external application, both as an addition to ointments and as a liniment.—See *Ammonia*, *Camphor*, *&c.*

OMENTUM, OR CAUL.—A membran
more or less covered with fat, which i
spread over the intestines. It probably act
as a protection against cold. The great load
ing of the omentum with fat, is one of th
chief causes of the protuberance of the ab
domen in very corpulent people.

ONANISM.—The crime of Onan—sel
pollution—requires no further notice her
than to put parents upon their guard re
specting their children, in connection wit
this ruinous vice acquired at school, an
indulged in, in ignorance either of its si
or evil consequences. Some of the mo
lamentable instances of youthful decrep
tude, nervous affections, amaurotic blin
ness, and mental debility and fatuity i
early life, which come before medical me
are traceable to this wretched practic
Whenever young people, about the age
puberty, exhibit unaccountable sympton
of debility, particularly about the low
limbs, with listlessness and love of solitud
look dark under the eyes, &c., the pos
bility of vicious practices being at the ro
of the symptoms should not be entirely lo
sight of.

ONION AND GARLIC.—The former
these well-known vegetables, may be co
sidered either as a condiment, or as
article of real nourishment. In its ra
state especially, the onion, by virtue of th
volatile oil it contains, is a powerful stim
lant, but one only to be used with adva
tage and impunity by the owners of stro
stomachs, who intend for the time being
eschew civilized society; under this prov
the onion may really, at times, prove,
has done, of much value as a stimul
By boiling, the onion is deprived of m
of its pungent volatile oil, and become
agreeable, mild, and nutritious veget
it is less wholesome either fried or roa
a portion of the volatile oil being reta
and empyreumatized, and thus ren
very irritating to the stomach. The
possesses diuretic properties. A r
onion, cut in half, and the centre sc
out, is a frequent domestic remedy a
to boils, with a view of hastening
breaking.

Garlic is a more powerful stimula
onion; when applied to the skin,
fresh or in a pulp, it acts like a
cataplasm. Garlic is diuretic, and p
other properties, but its abominat
is quite sufficient to exclude it f
when so many more efficient and
substitutes are obtainable.†

ONYCHIA—is a species of u
difficult to heal, situated at the
and underneath the nail. It i

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* The Oil of Cade, l'huile de Cade of the French, or Empyreumatic Oil of Juniper is a favor
tion with many physicians to Skin Diseases of a scaly character. A soap is made of this oil, and
more easy of application as well as more agreeable for use.

† A very efficient Tincture of Garlic has been prepared by Messrs Macfarlane of Edinburg
reasons above-mentioned, it is not likely to come into general use.

dependent on general constitutional debility which requires to be attended to — see *Debility—Tonics, &c.* The local irritation about the nail may be treated by poultices, and afterwards by the mercurial black wash, but the disease will probably require the attention of a medical man.

OPHTHALMIA.—See *Eye.*

OPINION, MEDICAL. — A medical opinion on a case of disease includes, first, the "Diagnosis" or conclusion arrived at respecting the nature of the disease; second, the conclusion as to the appropriate treatment; third, the "Prognosis" or opinion respecting the ultimate termination of the case. Under articles "Diagnosis," "Medicine, Science of," and "Prognosis," these points are sufficiently entered into.

OPIUM—is the milky juice, dried, of the seed vessels of the common garden poppy; it is, perhaps, the most useful remedy in the entire list of medical agents used by man, and has probably given more relief to human suffering, than any physical means we are acquainted with.

Opium may be procured from other species of poppy, but that above named is its regular source. The drug is chiefly collected in Asia Minor, in Egypt, and in Hindostan, but has been made in Britain. It is procured by making oblique incisions about half through the external wall of the unripe poppy capsule or seed vessel, and allowing the milky juice to become partially dry, when it assumes a brown colour, and tenacious consistence; at this stage, the opium is generally gathered by scraping it off the capsule by means of a stick or some other instrument, by which it is transferred to the receiving vessel—a cocoa-nut shell or the like; it is then further dried, after which it is, in some places, packed in leaves, in masses of various size, or, as in Egypt, made into rolls, or small flat cakes. Opium, when bought as imported, is apt to contain much impurity; by far the best condition, therefore, in which to purchase it for direct use, is the properly prepared powder, which must be kept in a well-closed bottle. The preparations of opium used by medical men are very numerous; the most useful of these only will be referred to in this article.

Opium is most familiarly known in its action upon the human body, first, by its power of compelling sleep—its sedative, soporific. or narcotic property; and second, by its power of relieving pain, its anodyne property; these actions, however, are much varied, and others are developed in accordance with the influence of circumstances, either permanent or accidental, such as the dose, and mode of administration; the state of the person taking it at the time, whether physical or mental, his temperament, previous habits, &c. It is well known, that among the Orientals, opium is employed rather as a stimulant, as we use wine, than as a sedative, and its use for this purpose has very widely extended of late years in this country. When taken with the above view, the dose requires to be small—that is comparatively so according to the habits of the individual—and if sleep approaches, it requires to be resisted; after this state if it occurs, in those who are stimulated by opium, a state of unusual physical, and especially of mental, activity is excited, accompanied with exalted brilliancy of ideas; after some hours this subsides, leaving drowsiness, inactivity, and low spirits.

If, however, the dose of opium has been a large one, or if the individual gives way to the inclination to sleep which follows even a moderate dose, heavy slumber is the result, varying in duration according to the dose of the drug, and other contingent circumstances. Such is the more ordinary medicinal effect of opium, but whether the effect produced be one of excited, or of sedative action, pain is either modified or wholly subdued for the time being. When the effects of an ordinary dose of opium are passing off, most persons experience some amount of uncomfortable sensation; dryness of the mouth, headache, low spirits, and sickness; this latter symptom especially, is sometimes so distressing, as almost to debar the use of opium in certain individuals.

Sometimes, opium produces neither sleep nor the pleasing excitement so valued by its votaries; but gives rise to feverish restlessness, headache, thirst, &c. This may arise from constitutional peculiarity, from a state of previous feverish excitement, from the drug having been swallowed too soon after a meal, or from other causes.

In whatever way it is conveyed into the system, whether by the stomach, by the skin, as by external application, &c., opium seems to exert its peculiar effects upon the brain and nervous system; it further modifies the secretions, particularly those of the mucous membranes; it checks the flow of bile, and powerfully constipates the bowels; but it determines to the skin, and causes sweating. The constipating action of opium is sometimes one of its chief inconveniences, but in those who consume it regularly, this effect generally soon passes off.

The action of opium upon the system is in the first place greatly modified by custom; persons who habitually take it for purposes of intoxication, find it necessary, gradually to increase their dose if they wish to experience the—to them—agreeable influence; such persons, when consulting a medical man, ought always to inform him of their habit, otherwise, when ordering what would be only a suitable dose for the generality of persons, he may be prescribing little more than a tithe of the ordinary amount consumed by his patient. It is, perhaps, needless to point out that serious consequences might result. Again, the existence of certain diseases, particularly of a spasmodic or painful character, very greatly modifies the power of opium over the system; this is peculiarly exemplified in such diseases as lockjaw, &c. Persons, even, who are ordinarily very susceptible to the action of opium, when suffering severe pain, can often take it in considerable quantity, without experiencing its usual effects, or, indeed, any effect beyond relief to pain. Age is another circumstance, which affecting the power of action of all medicinal agents, seems peculiarly to do so in the case of opium, its influence augmenting in a rapidly increasing proportion as the earliest epoch of life is approached; indeed, during the first two or three years of life, it is impossible to exercise too great caution in the administration of opium; many accidents are known to ensue from its careless, or ignorant, or criminal use, and doubtless many more there are which never come to light. A single drop of laudanum has been known to prove fatal to a young infant. Even in infancy, habit, nevertheless, enables comparatively large doses of opium to be given, but the most lamentable results accrue to the constitution, and, ultimately, death itself may be the consequence. No one should be tempted to give opium in any form to a child, unless under medical sanction, or under the pressure of some of such circumstances as are pointed out in various parts of this work—see *Children*—and when it must be given, it should be in the form of laudanum, in the most cautiously graduated dose. To an infant under two months old, one-quarter to one-third of a drop only should be given at once, and repeated at intervals of an hour, if required; and even in this way, no unprofessional person should venture to exceed the amount of one single drop of laudanum to an infant under six weeks old.

Poisoning by opium, either by accident or design, is a very common occurrence. The symptoms generally set in from half an hour to an hour after the drug has been swallowed, but this circumstance depends partly upon the form in which the poison is taken, being delayed longer when solid opium has been employed, instead of, as more usually happens, its fluid preparation, laudanum. The symptoms are, giddiness and drowsiness, from which the person may be roused by noises, shaking, &c.; but this quickly passes into apoplectic stupor, with slow, "stertorous" breathing; and, ultimately, if the case proves fatal, into death with or without convulsions: these being most common in children. In addition to the above symptoms, the face is pale and ghastly looking, the surface cold, but may be covered with perspiration; the urine unpassed; the pupils of the eye are generally contracted; the odour of opium may possibly be detected in the breath.

The treatment of a case of poisoning by opium must, in the first place, be to procure the evacuation of the poison from the stomach. For this purpose a medical man may use the stomach-pump; but others must attempt it by emetics.—See *Emetics*. If sulphate of zinc (white vitriol) be procurable, half a drachm should at once be given, dissolved in water; or five grains of sulphate of copper (blue vitriol), in the same way; or mustard or salt may be tried if neither of the above are at hand; or ipecacuanha combined with a stimulant—a couple of tea-spoonfuls of sal volatile or of brandy; or the throat may be irritated with a feather. In some cases, vomiting and even diarrhœa, occur spontaneously, and certainly diminish the danger. When the stomach has been cleared, *but not before*, vegetable acids—lemon-juice, vinegar, cream of tartar—may be given freely; or strong coffee, without either milk or sugar. —See *Coffee*. At the same time, every means must be used to keep the patient from lapsing into lethargy; cold, or alternate cold and hot, water, may be dashed over the body; mustard-plasters used between the shoulders, and continual movement kept up. This is usually, and very properly, done by keeping the patient in continual motion for many hours between two assistants. Lastly, galvanism or electricity may be used, and artificial respiration kept up. A most remarkable case of recovery, the result of the persevering employment of these two agents—galvanism and artificial respiration—is recorded in the *Lancet*, March 27th, 1852, by Dr. Herapath, under whose care the case occurred.

In this case, a "small tea-spoonful" of laudanum was given by mistake to an infant but thirty-nine days old, and the whole retained. The case is cited as an instance of how much may be done by persevering and well-directed efforts to save life.

Tannin, the active principle of oak bark has been recommended in opium poisoning. It is perhaps not much to be depended on, but in the absence of other remedies a strong decoction of the bark might be used. It must be remembered, that in poisoning by opium, partial consciousness may be restored, and yet the patient, if unattended to, may relapse and die. It has been suggested that many of the symptoms of poisoning by opium are the result of the dryness of the lining membrane of the air-tubes—which is one of the invariable consequences—preventing the due oxygenation or purification of the blood, the fact should not be lost sight of, especially as it may be remedied by making the patient inhale steam freely.

The quantity of opium required to destroy life, may probably be stated at from four to five grains of solid opium as a dangerous dose to an adult, and from a drachm and a half to two drachms of laudanum, and upwards. The average time in which death ensues, in consequence of poisoning by opium, is twelve hours; but it may occur considerably earlier.

Opium as a medicine is useful in a great variety of diseases, but as its employment is mentioned under the separate articles, it is unnecessary to repeat the information here. The most useful preparations of opium are—

Opium powder.—To be kept in a well-stopped bottle. Average dose for an adult, one grain.

Tincture of opium, or laudanum—which contains one grain of solid opium in nineteen minims. Average dose for an adult, fifteen to twenty minims, or about twenty five to thirty drops.

Of all the preparations of opium, this is the most generally useful and valuable, and the safest. Its dose may be regulated to the minutest proportion, and when properly made, it keeps well.

Tincture of opium with camphor, or Paregoric,—which contains one grain of solid opium to the half-ounce. Average dose for an adult, one drachm to three drachms.

Compound opium powder with ipecacuanha, or Dover's powder—which contains one grain of solid opium in ten.—See *Dover's Powder*.

Compound opium powder with chalk—which contains one grain of opium in forty. Average dose, twenty to forty grains.

As external applications, the soap and opium liniment, and the opium plaster, are both useful.

There are many other preparations of opium used, but the above would be ample for the best stored emigrant chest; and therefore for any home use. Persons generally, will find it more advantageous to purchase the preparations ready made, but in some cases, it may be requisite to make laudanum themselves.

To make Laudanum:—Take of opium, sliced, three ounces; water, thirteen fluid ounces by measure. Macerate the opium in the water, in a wide-mouthed bottle for a couple of days, shaking up occasionally, and then add twenty-seven ounces of rectified spirit of wine; macerate for ten days or a fortnight, and filter. Of course a much smaller quantity may be made at once, observing the same proportions.

Laudanum and paregoric are best administered in water; Dover's powder, or the compound chalk powder, in some thick substance, such as gruel. When solid opium is given, it is best in the form of pill, without admixture. Laudanum is sometimes used as an external application, being put into poultices, &c.; it is also used to rub on the gums in toothache. It must not be forgot, that in any of these ways, if employed incautiously, or in excessive quantity, it may affect the system, and even prove dangerous. For the use of laudanum in clysters, the reader is referred to the article on the subject.

In addition to the preparations of opium above mentioned, two others require notice[*] one of these, the valuable, though secret, Battley's Sedative Solution, will be found noticed under its special article; the other, morphia, is the special sedative or narcotic principle of opium. Opium is a very compound body, and includes other principles, on some of which its stimulant and other powers more particularly depend; morphia, therefore, being separated from these, is more purely sedative, and is not found so frequently to occasion the disagreeable after-effects which often follow the use of opium; in other respects, its action and applications are the same.

Morphia, on account of its insolubility, is generally prescribed in the form of the more soluble acetate or muriate of morphia. The latter is the best and more certain preparation: dose, from quarter to half a grain. The *graduated* morphia lozenge is a most effectual and comparatively agreeable remedy in irritable cough; ten or fifteen of the lozenges may be taken in the course of the same number of hours. In Edinburgh, the same lozenge, combined with ipecacuanha is made, and is very useful in may cases.[†]

Refer to—*Poppy*—*Dalby's Carminative*—*Godfrey's Cordial*, *&c*.

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[*] Chlorodyne—see Appendix.

[†] Nepenthe is another preparation of Opium introduced within the last few years. It certainly seems to agree in some cases where other preparations cannot be taken without great inconvenience.

OPODELDOC—is an old name, seldom used now by medical men, applied to external stimulating embrocations. The camphorated soap liniment is the form most usually indicated by the term, popularly.

OPTICAL DELUSIONS—the result of diseased or of disordered action—are not uncommon. Under the term, may be included the more obvious disorders of vision, such as those in which one-half of an object, or one-half of a word only, are perceived. From this state, up to that in which figures of persons, either known or unknown, are seen, either constantly or periodically, every form of optical delusion is met with. Such cases are generally connected with disorder in the head, either in the form of disease of the brain itself or are occasioned by sympathy with disordered function in other parts of the body, more particularly the stomach.*

ORANGE.—This well known and wholesome fruit is imported chiefly from the countries bordering the Mediterranean. The two varieties—the bitter or Seville orange, and the sweet orange, are too well known to require description. The perfume of the orange-flower is highly valued, and the distilled water is used on the continent as an anti-spasmodic and anodyne; it is recommended as extremely useful in hysteria, in doses of one or two ounces.

In this country, the chief direct medicinal use of the orange is derived from the rind, which yields an agreeable, aromatic, stimulant bitter; the rind of the bitter orange is usually ordered, but that of the sweet may also be used, though it is less powerful. A confection, an infusion, a syrup, and a tincture of orange peel, are all used. A very good infusion may be made, simply, from an ounce of the dry bitter orange-peel, twenty ounces of boiling water being poured over, the whole allowed to stand for twenty minutes, and then strained; the addition of a quarter of an ounce of lemon peel to the above quantity may be made with advantage. The dose, as a stomachic, is a wine-glassful twice a-day. Of the sweet variety of the orange, the China, the Maltese, and St. Michael's are best known in this country; the finest descriptions of the fruit have a smooth, thin, dark, rind. The juice of the sweet orange contains principally mucilage, sugar, and citric acid, and is one of the most wholesome vegetable juices we possess, particularly in the chamber of sickness; the cellular pulp of the orange, however, in which the juice is contained, is very indigestible, and when swallowed, as it often is by children, is apt to produce disorder, passing through the bowels unchanged. It is a good pla
case of young children, to give the
juice squeezed into a glass.

ORBIT.—The cavity in the s
which the eye is placed.

OSMAZOME is the animal prin
which the peculiar and agreeable fla
cooked meat depends. It is most
festly developed in decoctions of me
as soups, &c.†

OSSIFICATION.—The format
bone. "The first development of
commonly preceded by the formati
cartilaginous (gristly) structure, wh
cupies the place the bone is afte
to take; and it has been commonl
sidered, that the bone is formed
ossification of the cartilage (gristle).
however, does not appear to be th
for none of the peculiar substance
cartilage—chondrine—can be found
fect bone." "The process of tru
formation, always commences in the
diate neighbourhood of blood vessels,
pass down into canals excavated in t
stance of the cartilage; the spots
these vascular canals are especial
veloped, are termed centres of ossifi
We usually find one of these in the
of the shaft of a long bone, and one
end; in the flat bones, there is ge
one in the middle of the surface, a
in each of the principal projections
to the period when a bone attains
dimensions, the parts which conta
tinct centres, are not connected by
(bony) union, but only by cartilage,
they fall apart when this decompose
purpose of this is to allow an incr
the size of the bone by the growth of
lage between its detached portions,
cartilage may give place to bony str
when there is no further need of inc
—See *Epiphysis*.

After the formation of bone has
completed, the changes which take
in its component particles appear to
slowly, but should injury be inflicted,
in the form of fracture, or as a conse
of disease, by which a portion of b
destroyed, the formation of new b
often extremely rapid, and in the co
time, extremely perfect; the new str
in every way resembling the old. T
union of fractures by the formation o
bone has already been alluded to
article, *Fracture*.

As all are aware, the bones of
animals are much more cartilaginou
those of older ones, they contain

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‡ Carpenter's Physiology.

* For some remarks upon Colour Blindness—see Appendix.

† It may be taken as an axiom that beef-tea is not properly made, unless it contains all the agreea
aromatic principles.

more animal matter, which, as life advances, diminishes, and gives place to a larger proportion of mineral ingredient. It is not, however, in the bones alone that this tendency to increase of mineral deposit—ossification—is observed; the body, generally, in old age, becomes more rigid, and bony deposit is found in structures that do not ordinarily contain it. Some structures are, however, much more obnoxious to this than others. It is matter of popular information, that the heart is very liable to be the seat of ossification in advanced life; this occurs more especially in the structure of its valves, and in connection with them—see *Heart*—also in the coats of the arteries which supply its own muscular substance; a change which is often found to have been associated with symptoms of "angina pectoris." This tendency, however, to the deposit of bone about the arteries of the heart, extends throughout the arterial system generally, causing these otherwise elastic tubes to become rigid, and thus impairing the important power they possess in health and in early life of assisting to propel each wave of blood which the heart-contraction commences through the body.* See *Circulation*. This change in, and enfeeblement of, the power of the arteries, is one great and originating cause of many of the diseases of old age. Other parts, such as those connected with the larynx, &c., are liable to become converted into bone as life advances. The subject could not profitably be pursued, further here.

Refer to—*Bone*—*Cartilage*—*Fractures*, &c.

OVARIUM, OR OVARY—is the receptacle in which are contained, either in plant or animal, the germs of the future seed or egg. The ovary in the human female is liable to a variety of diseases, such as inflammation, &c., which often give rise to many obscure symptoms in organs apparently quite disconnected with those which are the primary seat of the irritation. Dropsy of the ovary is one of the most general affections of the organ; tapping, or other operations may be required for its relief.

OVUM—literally, means an egg. The term is generally applied to this germ of the future being, after it has been fertilized by the male; previous to that, the term ovule is used. After fertilization, the ovule of the plant becomes the seed; that of the animal, the egg, in which and from which the future animal is formed, either out of or within the body of the mother. See *Egg*.

OXALIC ACID—is one of what are called the vegetable acids, being found ready formed—in combination with potass—in various plants, such as the common wood sorrels, the common sorrel, the garden rhubarb, &c. It is also formed in some disordered states within the animal body, and is excreted in the urine, in combination with lime.—See *Urine*. Oxalic acid may also be formed by the action of nitric acid on sugar or starch, to which bodies it approaches, nearly, in composition, being formed of carbon, oxygen and hydrogen, in certain definite proportions, or in other words, of carbon and oxygen along with the elements of water. Oxalic acid is generally met with in the form of small white crystals. Oxalic acid is not now used medicinally; formerly, it was so, in the form of the wood sorrel, which was employed for the purpose of making febrifuge acid drinks, whey, &c.; but there are many substitutes, such as lemon-juice, better adapted for the purpose, and less suspicious.

What is known in the shops under the name of "essential salt of lemons," or salt of sorrel, is a compound of oxalic acid with potassa, and was formerly obtained from the wood sorrel.

Oxalic acid derives its chief importance here, from its frequent effect as a poison, either by accident or design. The accidents have generally arisen, in consequence of oxalic acid having been sold or taken in mistake for Epsom salts, the crystals of the two closely resembling one another; the precaution of tasting a single crystal would be sufficient to detect the difference.

The symptoms produced by poisoning by oxalic acid vary considerably. When a large dose has been swallowed, the chief effect is complete prostration of strength, in fact, a state of collapse, accompanied with stupor, in which the patient dies, often within thirty minutes after taking the poison. Severe pain at the stomach usually comes on soon after the poison has been swallowed, but this, and vomiting which also generally occurs, and continues with great severity, may be absent. The vomited matters are strongly acid, and dark in colour. The rapidity with which death often ensues after a poisonous dose of oxalic acid has been swallowed, renders it almost impossible, in many cases, to procure medical assistance in time; it is, therefore, highly desirable that the most prompt measures should be adopted by those around. The principle of treatment is based on the fact, that the very soluble oxalic acid itself, forms with lime especially, and with magnesia, insoluble and, therefore, comparatively less hurtful compounds. Chalk or whiting, the carbonate of lime mixed up with water, is the best possible antidote, and should be given freely; if this is not at hand on the emergency, a portion of old mortar should be taken as a substitute, rubbed up with milk and water, and given as quickly as possible, or, instead of it, magnesia. If none of these remedies can be procured, very copious draughts of water should be given to promote vomiting, which in any case should be excited, if it has not been already occasioned by the poison. There was formerly a prejudice against giving water largely in oxalic acid poisoning, from the fear that it might favour the solution, and passage of the salt into the blood; the practice has, however, been found advantageous, provided free vomiting is encouraged. Of course, whilst these measures are in progress, medical aid should be sought. Should the patient survive the poisoning, symptoms of irritation of the stomach and alimentary canal must be expected which will require the most soothing treatment, chiefly by demulcent medicines and diet, and it may be by leeches to the pit of the stomach.

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* The blood-vessels are generally though not always tortuous or twisted in shape: can be easily felt under the skin, and the different superficial vessels as well as the pulse at the wrist are more visible than in health they ought to be.

OX-GALL.—The gall or bile of the ox has been much lauded as a remedy in habitual constipation. A few years ago, it was extensively tried, and undoubtedly proved, and does prove serviceable in certain cases, but, perhaps, having been over-praised, it seems to have become again almost too much neglected. In some cases of constipation in pregnancy, it answers extremely well, and is very safe. Its preparation for medicinal purposes is simple, all that is required being, to place a quantity of fresh ox-gall in a flat dish, in a sufficiently warm situation—such as an oven—and permit evaporation to go on, till the gall becomes sufficiently firm to make into pills, of which from five to ten grains weight may be taken once or twice a-day. Besides acting as an aperient, ox-gall has been said to assist digestion; this may be, either from its bitter-giving tone to the stomach, or from its giving its own chemical aid to the solution of certain constituents of the food.[*]

OXYDE OF BISMUTH.—See *Bismuth*.

OXYGEN GAS—is one of the elementary bodies, and if one is more important than another, it, perhaps, is entitled to the first place. Its name, derived from two Greek words, was given in consequence of the erroneous idea that it was the sole cause of acid properties in bodies; it has also been named "empyreal air" "dephlogisticated air," &c. Oxygen gas, in mechanical mixture with nitrogen, constitutes the air of the atmosphere which surrounds our globe, see *Air*,—and on its presence in due proportion, depends the continuance of animal existence, the phenomena of combustion, &c. Whether the nitrogen gas with which oxygen is mingled in the atmosphere fulfils other objects or not, it certainly does the important one of diluting it, and of tempering its potent agency, which, were it not for this dilution, would act with such chemical energy, as must quickly prove destructive to organized life upon our globe, as at present constituted.

Oxygen, in combination, forms what are called *basic oxides*. These are bodies such as potass, soda, oxide of iron, &c., which tend to unite with its next class of compounds, the *acids*. Besides these, oxygen forms compounds which do not exhibit aptness for entering into combination.

Further, oxygen, by uniting in different proportions with the same body—such as nitrogen—may give rise to a variety of very different compounds. Oxygen has never been separated in a palpable form; it is known by its effects. The important part which oxygen plays in the various fulfilments of animal life and existence, has rendered the foregoing notice necessary. Under such articles as *Animal Heat*, *Air*, *Blood*, *Digestion*, *Motor Change*, *Respiration*, *&c.*, the reader will find those fulfilments and effects sufficiently entered into. The employment of oxygen in the form of inhalation, as a remedial agent in various diseases, has often been proposed, but never established in practice.

OXYMEL.—A mixture of honey and vinegar. Simple oxymel is made in the proportion of five pounds of honey to seven ounces of acetic acid, and eight ounces of water.

Oxymel of squill is made by mixing four ounces of squill vinegar with half a pound of honey.

The above are pleasant and useful preparations in some forms of catarrh and cough, and may either be used alone, or combined with other medicines.

OXYMURIATIC ACID,—the old name for chlorine.

OYSTERS.—Respecting the wholesomeness of this well-known shell-fish, much difference of opinion exists among medical men; nutritious, especially when uncooked, they certainly are, but their digestibility in all probability depends greatly upon the person by whom they are eaten. Some, whose stomachs generally require much consideration, can eat oysters in moderation with impunity: Dr. Paris, however, condemns them for invalids. Oysters have though rarely, like other shell fish, caused symptoms of irritant poisoning.

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[*] Ox Gall has been admitted into the British Pharmacopœia as a medicinal agent, and is given in the dose of five to ten grains, either in the form of pill or capsule.

OZON—is a "substance" of penetrating odour, which, according to M. Schönbein, who has paid much attention to the subject, is constantly liberated in greater or less quantity in the atmosphere, according to the development of electricity. He has ascertained it to be generally most abundantly developed during winter while there is snow, or during stormy weather in summer. From these circumstances, and from its properties in respect to the respiratory functions, M. Schönbein is disposed to attribute to this substance, the production of some of those epidemic catarrhs—influenza, &c.—which so evidently depend on atmospheric causes. By others, ozon is considered to be oxygen in a peculiar condition. The subject is one of much interest.*

PAIN.—The sense of pain, like other sensations, originates in the nerves, and very generally *appears* to be located in the parts where their ultimate branches terminate; the perception of pain, however, by the sentient being, must depend upon the brain, the sense of it being conveyed to that organ by the nerves. This we know, certainly, to be the case, for if the nervous communications with the brain are cut off, as by injury to the spinal cord,—see *Nerves*—or if that organ itself is oppressed, as in stupor, there is no sensation, and consequently no pain. There may be the appearance of sensation, and of pain being felt, in consequence of reflex action, as explained under article "*Nerves*," but it is appearance only. If any portion, almost, of the healthy body, is injured, pain is felt, because the universally-distributed nerve branches are injured in the process, and, as might be expected, the sensation is referred to the seat of the injury; but pain being felt in a particular part, or as if in a particular part, is not necessarily indicative of injury at the place where it is felt; it may arise from irritation of the nerve cord, which supplies the part, at almost any part of its course. This is most strikingly exemplified in the cases of persons who have suffered amputation of a limb, and who often experience the sensation of pain, as if in the member they had lost. Similar, in some degree, to the above, are the sympathetic pains observed in some cases of disease; such, for instance, as the pain at the point of the shoulder from affection of the liver, the pain in the knee which is so general an accompaniment of hip-disease, or the pain in the legs which may result from acid in the stomach. Pain, therefore, although a most valuable guide in the investigation of disease, is by no means an unerring one, and must not be too implicitly trusted.

The faculty or power of feeling pain, the "sensibility" of the various parts of the animal body, when in a healthy condition, varies greatly, depending in a great measure upon the supply of nerves they receive, thus, such parts as bones, tendons, ligaments, &c., are generally but little sensitive; when, however, they become inflamed, they are acutely so. Further, it would seem that certain affections of the central parts of the nervous system, greatly increase the sensibility to pain, as well as diminish it, more particularly affection of the spinal cord. Such is the case in hydrophobia, lock-jaw, &c., in which every portion of the surface of the body becomes painfully sensitive.

Lastly, in functional disorder, or irritability of the nervous system, such as occurs in hysteria, there is often intense susceptibility to pain, as well as to other outward impressions, but this evidently depends on very different causes, and requires very different treatment from the cases abovementioned.—See *Hysteria*. Pain is not at all times referred to the terminations of the nerve, in neuralgia either of the head or face, or affecting the great nerve of the thigh and leg,—sciatica—the pain is often complained of in the site of the main cord of the nerve itself.

Pain varies greatly in kind, as all know; it is dull and aching, sharp and cutting, throbbing, tingling, smarting, burning, &c., these differences depending in some measure upon the part affected. Inflammation of the skin is generally accompanied with pain of a burning, tingling, or smarting character; that of a "serous membrane," such as lines the chest, causes pain that is sharp and cutting, which is the case in pleurisy; the pain of toothache is dull, aching, and throbbing; the pain of spasm is sharp, but distinguished from that of inflammation by not being aggravated by pressure.

It is probable—and cases of hysteria justify the supposition—that some persons are much more acutely sensible of pain than others; it is certain, that some bear it much better, both physically and mentally, than others. It is sometimes of importance to ascertain this; it may be done at times, by remarking, when it is necessary to apply a blister, how far the irritability, either mental or physical, is excited by it.

Pain is not an unmitigated evil; were it not for its warning, we should be liable, unwittingly, to inflict all manner of injuries upon our bodies. We see this in cases in which the sensibility to pain is impaired or destroyed, in consequence of disease of the brain, or of paralysis of the nerves of sensation. In the former case more especially, as has already been alluded to in this work, serious results may follow forgetfulness of this fact; the feet, either of an adult or of a child, may be parboiled, or a mustard plaster may be kept on the skin till the most severe effects are produced, simply because the warning symptom of pain is, for the time being, in abeyance. This is no imaginary possibility, and it is one, the occurrence of which should deservedly bring down the censure of gross carelessness upon any one under whose management it might happen.

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* For further information as to Ozone—see Appendix.

The absence of sensibility to pain, in connection with cases of apoplectic stupor, &c., is what we may expect; it sometimes, however, occurs whilst the mental faculties remain active; this, when it does happen, is generally after some severe accident, such as an extensive burn or the like, which seems to overwhelm the nervous system, in such cases, the severest operations may be undergone without suffering, but the symptom is one of the most fatal import.

The presence or absence of pain, or its alleviation, is by no means a light consideration in the treatment of disease, the mere sensation of it exerts a great call upon the system, and it is quite possible, indeed the author has, he believes, seen it, for a person to die from severe pain alone, hence the inestimable value of those modern discoveries, the anæsthetic, or pain relieving powers, of chloroform and ether, which, by saving a patient the exhausting shock of the pain of a severe surgical operation, place him in a much more favourable condition for recovery than he would be without their aid, a consideration, which far outbalances the few and far-between fatal accidents which have undeniably followed the use of the above agents. It is the fact of the exhausting tendency of pain, which renders opium so valuable a medicine, and one, the existence of which so abundantly testifies of the beneficence of our Creator, who, in conferring upon man the liability to suffer from the warning pang of pain as a necessary adjunct to his present being, has also given the means of its alleviation.

Although, however, it may be advisable in most cases to alleviate or annul pain, and, when it is very severe, imperative to do so, it is possible to sacrifice too much to the one object. Generally speaking, it is not difficult, for a time, at least, to overwhelm the sensations of pain by powerful doses of anodynes; and although, as far as can be done, consistent with other means of treatment, suffering should be relieved, it ma not be desirable totally to annihilate wh is, in many cases, an index of the progres of a disorder; neither can it be advisable t sacrifice to the one object—the alleviation c pain—other considerations of more vit and lasting import. In other words, i would not be right to give, for instance, large dose of opium to annul a present pai with the risk or certainty of interferin with some of the secretions or excretions c the body, such as that of the bronchi membrane, the due performance of whic must be absolutely necessary to the ultimat well-being of the patient. This point i dwelt upon, because it is one on which th public require a little enlightenment. T unprofessional persons, the man who mo quickly relieves that which every patien thinks the most prominent symptom of hi case—pain—naturally, perhaps, appears t be the superior practitioner to one wh does so more slowly; but yet, the latte may be following, by far, the safer, and on may add, more conscientious practice, an be much more likely to conduct his case, i the end, to a successful issue, than if h had sunk other considerations before th one—the relief of the present pain. Th relief of pain by anodynes—see *Anodyne*— has been chiefly alluded to in the foregoin remarks, these being the remedies whic were most likely, from their remarkabl power of subduing pain, to be resorted to to the exclusion of other really more important indications and methods of treatmen There are, however, other means of alleviation, which cannot strictly be called anodynes, but which may, in many cases, b used with much advantage, without bein open to the objections which hold goo against opium and the like. Of thes heat, especially when combined wit moisture, is at once the most useful an generally applicable; cold may answer th same purpose in some cases, but not generally, except in pain affecting the hea The position of the body, or of a limb, th mechanical support of a painful part, eithe to relieve its natural weight, or to tak pressure off the site of the pain, and thro it on some sound texture; the abstractio of blood by leeches, scarifications—as show in the case of the gums, which, by relievin the swelling and tension, also relieve th pressure upon the extreme nerve-branche —and many other remedies applicable t the relief of pain, are to be kept in min Lastly, the kind word and the gentle to are anodynes, which, though they may not relieve real pain, will yet, either in rich or poo make it more bearable, and whilst incapabl of harming, give the double blessing on them that bestow and on them that receive.

Refer to—*Nerves—Opium.*

PAINTS AND PAINTING.—The injurious effects exerted upon the health of those who occupy newly-painted houses or rooms, is a circumstance too frequently, overlooked. That living in, and especially sleeping in rooms which have been newly painted with "oil colours," does occasion uneasy feelings, such as headache, &c., most can testify, but that the effect produced is more than transient uneasiness, is evident from the fatal influence the same circumstances exert upon birds, &c.

Refer to—*Lead.*

PAINTER'S COLIC.—See *Colic and Lead.*

PAINTER'S PARALYSIS.—See *Lead—Palsy.*[*]

PALATES.—The palates are divided into hard and soft. The former is the ridged roof of the mouth, which, commencing behind the upper teeth, extends backwards, and merges into the soft palate, which is a fold or curtain of the mucous membrane lining the mouth, and from the centre of which depends the uvula, a small rounded projection which any one may see by examining his own throat in a glass.—See *Uvula.* From each side of the uvula proceed two arched "pillars" or folds of membrane, an anterior and a posterior, between which, on each side, is placed the tonsil.—See *Tonsil.* The soft palate, during the act of swallowing, prevents the regurgitation of food into the nose, whilst, at the same time, the arched pillars above described, by closing over the root of the tongue, keep the morsel from passing back into the mouth. The membrane within the mouth, which covers the hard palate, is liable to be the seat of small blisters, particularly in those who suffer from some forms of indigestion; in such cases, of course, the cause, and not the effect, requires treatment. —See *Indigestion.* The hard palate is occasionally deficient at birth, and to so great an extent, as to require the introduction of a metallic plate to fill up the gap. In such cases, the fissure often extends through the soft palate, dividing the uvula into two parts. These "congenital" affections are usually associated with hare-lip, and, like it, require the operative aid of the surgeon for their reparation. Fortunately, recent improvements in the mode of operating, particularly by Professor Fergusson, of King's College, have rendered the measures resorted to much more generally successful than formerly.

Refer to—Nose—Throat—Tonsils—Uvula, &c.

PALLIATIVES—are remedial agents which aim rather at relieving urgent symptoms, than at curing or removing the disease which these symptoms indicate. Too often it happens, that the palliative is all that is left for even the highest skill to administer, and if that skill cannot hinder the breaking of the "golden bowl," or the snapping of the "silver cord" which binds the living man to life in this world; it is much to be thankful for, that there are means and remedies which mitigate the pangs of fatal disease. There are diseases which baffle the most searching investigation not only in the living body but in the dead, and there are others which, although recognized, are so only—*in the present state of our knowledge*—to tell that they are beyond the reach of human aid to cure; in such, the palliative only remains, and if this be the case with educated skill, how often, rather how generally must it be so with the limited knowledge of the unprofessional; on this account, in a work like the present addressed to the latter, palliative treatment occupies a large space amid the remedial measures recommended as being "most safely usable by those who are put in possession of the information."

Refer to—*Pain.*

PALM-OIL,—yielded by the fruit of a species of cocoa-nut, is brought to this country as a substance the consistence of butter. It is used as an external application for similar purposes as the olive and other oils, but is in no way superior.

PALPITATION OF THE HEART—is unusual action of that organ, of which the patient is sensible; it may take the form either of a fluttering sensation about the region of the heart, perhaps extending into the throat, or it may amount to violent beating, either regular or irregular.

The liability of the heart's action to be increased by exciting emotions of the mind, almost of any kind, whether of fear or of joy, renders palpitation a very common affection, and when it occurs only under occasional circumstances like the above, one which cannot be considered otherwise than a perfectly natural occurrence. When, however, palpitation arises on every trivial occasion, either of mental emotion or of physical exertion, or without occasion at all, as it often does, even during rest in bed, then it requires attention, not solely on account of the discomfort it gives rise to, but because it may lay the foundation of disease of the organ which is so constantly subject to over-excitement. It has already been stated in this work, that heart affections have been observed to become more common after seasons of much public excitement of any kind, an effect traceable only to the frequent disturbance of the organ by the passions or emotions.

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[*] See also Drop-Wrist—Appendix.

Palpitation of the heart, independent of disease, is most liable, indeed is very liable to occur in the young of both sexes, and in females particularly, soon after the age of puberty, in the latter, being very generally associated with hysterical tendencies; in such cases, it is met with in its most aggravated forms, and often of such violence as to prove truly alarming. In any case, the tendency to palpitation is more common in the nervous temperament, and is increased by whatever gives undue predominance to that temperament, such as indolence, luxurious habits, and the indulgence of feelings and imagination artificially excited, and having once begun, it is kept up and aggravated by the continued attention with which the mind is apt to dwell upon the ailment; the individuals subject to it, easily imagine themselves the subjects of heart disease, watch every motion almost, of the heart, and thus, under the influence of their own imaginary fears, produce the very symptoms they dread. This nervous condition—for it is generally nothing else—is only to be got rid of by those measures which give a more vigorous and healthy tone, both to mind and body; the false excitement of imaginative literature—if it has been indulged in—must be exchanged for a more healthy mental aliment, something which calls for some healthy mental interest. This must, of course, be regulated in some measure by the habits and tendencies of the person, but where it will be adopted, the pursuit of some branch of natural history, botany, geology, or any other out-door occupation, such as gardening or sketching from nature, are the best pursuits; they occupy the mind, and draw it away from its own morbid fancies, even in the time of exercise, which is rendered doubly invigorating by the mental excitement which accompanies it: along with these means, a system of diet—see *Food*—adapted to give good blood nourishment should be adopted; heated and ill-ventilated rooms above all things are to be avoided, early hours observed, and if a feather bed has been habitually lain upon, a firm hair or wool mattress, substituted. One article of diet requires especial mention as being peculiarly injurious in such cases,—tea of any kind is better avoided, but green tea is absolute poison, coffee is scarcely allowable, and cocoa or milk should invariably be substituted for either of the above more stimulant beverages: wine or malt liquor may be injurious, or the reverse, according to the previous habits of the patient and the nature of the case: if depression or debility follow their withdrawal, the tendency to palpitation is certain to be increased.* In addition to these measures, regulation of the bowels, the use of the shower-bath, or, better, of the douche down the spine, and occasional mustard plasters on the chest or between the shoulders, are all useful, especially if, as frequently happens in cases of aggravated palpitation, any tenderness of the spine is found to exist. In cases of nervous palpitation, medicine is not much called for, unless to remedy other disorders, such as indigestion. Some patients derive much benefit from a tea-spoonful of the ammoniated tincture of valerian, taken twice or three times a-day in water, to which, if there is much nervous irritability, ten drops of tincture of henbane, may be added; sal volatile in tea-spoonful doses is often useful, especially if there is much flatulence; or ether, either sulphuric or chloric, may be taken in ten or fifteen-drop doses, either alone or with the above-mentioned remedies. The ethers, however, are more generally serviceable as remedies during an attack of palpitation, than when taken regularly. When palpitation is habitual and severe, a medical man should be consulted, especially if the mind is at all uneasy; his examination will detect the real nature of the affection, and his advice will be most likely to indicate with certainty, the remedies which will most quickly relieve that which, though but a functional disorder, may, if neglected, become an organic disease. With respect to palpitation dependent on disease of the heart, enough has been said in the article devoted to the subject of heart disease in general.

PALSY, OR PARALYSIS,† is loss of sensation, or of the power of motion, in parts naturally possessed of those endowments; the affection varies considerably in kind and degree. There may be loss of sensation, merely, either of a part, or of the whole body, without the power of motion being impaired, but this is comparatively rare; generally, it is the power of motion which is lost or diminished, that of sensation being often not affected at all, and when it is, only slightly so. Paralysis of motion may be confined to a single finger, to part of a limb, or to the whole of one; it may extend only to the lower extremities, whilst the upper portion of the body is functionally unaffected, or one entire side of the body may be totally or partially deprived of the power of motion. In a few cases it occurs, that general paralysis of all the muscles of voluntary motion has taken lace, life being carried on for some time y the involuntary functions solely.—See *erves.*

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* Smoking to excess is a very common cause of palpitation among young men, who are apt to fancy that they are the subjects of heart disease, and are agreeably surprised to find their bad symptoms vanish on their reducing their allowance of tobacco, or entirely relinquishing the habit.

† For an account of Infantile Paralysis—see Appendix.

Palsy or Paralysis of one side of the body, hat medical men call "Hemiplegia," is uch more common than the other forms of e disease, and may occur at any age, even m infancy upward, but is most general ter middle life, and more frequent in males an females; it takes place under very posite and varied conditions of the system. hen a person has suffered from an apo- ectic attack, the result of effusion of blood o the substance of the brain, from the ving way of a vessel, if recovery takes ace, it is very generally trammelled with ralysis.—See *Apoplexy.*

The rupture of a vessel in the brain, is e common originating cause of paralysis, is one, however, which may occur without ere being any decided apoplectic symp- ms at all; there may be slight effusion of ood in the head, but not more than causes the moment transient faintness and con- sion; it may be—if the attack occurs ring sleep—not even that, but either with without it, paralysis is found to have oc- rred, either total or partial, and remaining rtial, or gradually increasing for some me after its first appearance. Another m of paralysis is that arising from a more cided state of general debility, in which e brain partakes, and in which the struc- re itself gives way. It is often the disease f over-worked literary men, or men of siness, and is apt to end quickly, in a ftened state of the brain, with mental becility, and perhaps general paralysis. lsy may, of course, arise from other causes hich act upon and injure the structure f the brain, such as tumours, violence to e head, &c., but the above are the most mmon, and are sufficient to notice here.

Whatever the cause, it is always found at when the brain proper is the seat of e disorder, the paralysis of the body takes ace on the side *opposite* to that portion "hemisphere," of the brain which is fected.

The symptoms which precede an attack paralysis, are so very similar to those ich have been described as being the rerunners of apoplexy, that it is need- s again to go over them. The most quent, however, is the complaint of mbness and prickling sensation, through- t a whole limb, or affecting only a portion it, such as a single finger. Such symp- ms in old persons, or in the predisposed, uld never be neglected.

When a person has suffered from a troke of palsy," or a "paralytic seizure," by which is generally understood, the paralysis of motion on one side the body, the loss of power may be complete, the arm and leg lie perfectly inert as far as the will is concerned, and the face is generally more or less affected in a severe case, the side on which the paralysis exists, having a rather relaxed appearance, whilst the features are drawn towards the other, in consequence of the muscles of the sound side still continuing active, and being unresisted by those on the paralysed side. This is much more visible under any of the mental emotions which usually affect the features, such as laughing, the muscles on the sound side, only, acting, whilst the paralysed side of the face remains perfectly unmoved. Under this condition of circumstances, the speech is affected, articulation is thick, in consequence of one side of the tongue being also paralysed, so that when this organ is protruded, it is drawn to one side, swallowing is at the same, in some degree imperfectly performed.

These are the symptoms of a severe attack of paralysis, but they are often developed in much less intensity; the leg alone may be affected, or the leg and arm, leaving the face and head intact, and the mind perfectly clear. In a great number of cases, the paralytic symptoms after reaching a certain point, go no farther, remain stationary for some time, and then begin to amend, the arm and leg recover power, the features regain their wonted expression, and the speech is well articulated. This amendment may go on to complete recovery, but, generally, it stops short of this, and the person, though comparatively well, is not fully restored, the leg is not lifted as formerly in walking, but drags a little, the hand and arm do not regain their former skill and accuracy in executing accustomed acts, such as writing, even though the face, if it has been "drawn," is perfectly restored. In this state of partial recovery, numbers continue for years, capable, not only of enjoying life, but of executing many or most of its duties. It is a state, undoubtedly, which requires care, in diet, in exertion, whether physical or mental, and which involves many restrictions and self-denials, but none perhaps, to which a well regulated mind will not cheerfully submit; indeed, it does happen, that individuals who, previous to an attack of paralysis have been dyspeptics, or invalids, under a lax system of living, finding after its occurrence, the vital necessity of greater carefulness, absolutely enjoying better general health than previously.

When a portion of the body, such as the

arm, remains permanently paralysed, it, usually, after a time, sinks in muscular bulk, partly, owing to the want of exercise which necessarily occurs, but partly also to the diminished power of blood circulation through it, which certainly takes place; the difference in the power of the pulse in a sound and in a paralytic arm, is very perceptible, and experiment has demonstrated, that in the latter, the animal temperature is habitually lower. In connexion with these conditions of paralysed limbs, it should be borne in mind, that they have less power of *resisting differences in heat or cold;* a variation in temperature which would not affect a sound limb being apt to injure a paralytic one, water which would not be too hot for the former, producing a scald in the latter. In addition to the local effects of paralysis, there are general ones which often accompany the condition, these are usually connected with the excretions; the bowels particularly are apt to be very costive, and to require much care.

The mind may not be much affected at first, not perhaps for years, but the temper is apt to become irritable, a point which ought to be remembered with indulgence by others; as age, however, advances, in most cases the memory fails, and the mind, even the most powerful, becomes gradually weakened, it is enough to recall to the recollection, the touching accounts of the last days of some of our great men; such as Walter Scott—who have suffered from paralysis, to illustrate this fact.

Such are the best marked symptoms which accompany and follow that very common disease, a "paralytic stroke," the disease of the mental labourer. Many of the warning symptoms of paralysis, have been detailed under the head of apoplexy, and the precautionary measures pointed out; in the same article too, the means recommended to be adopted in the different forms of apoplexy, either threatened or actual, will apply to the severer cases of paralysis. When a person becomes affected with paralysis without apoplexy being developed, when debility, faintness, and loss of power are the most prominent symptoms, it is not often that very active treatment is required, the cause of the disease is probably beyond the reach of art to remove, and the object must be to place the system in a state which will in no way favour a return, or increase of the attack, but which will give every chance of recovery by the natural powers of the system. If the attack of paralysis has occurred in a person of very full habit, the chances are, that apoplexy has accompanied it, and if so, depleting measures will probably be requisite, these of course should be, if possible, under medical direction, but if this is unattainable at the time, they may be carried out as recommended, and under the precautions enjoined in the case of apoplexy.

When the attack of paralysis is accompanied with faintness and only partial loss of consciousness, in the absence of medical assistance, a tea-spoonful of sal volatile in a little water will be as suitable a remedy, as any other, and may be repeated once or twice in the course of the first hour or two; if the depression continues, the individual should be placed in bed with head and shoulders tolerably well elevated, and kept perfectly quiet; if the bowels are confined, a gentle aperient of castor-oil, or of rhubarb and magnesia, should be given, and light nourishment, tea, gruel, and the like. The warmth of the feet, and particularly of the affected side, must be strictly attended to. If, either at the time of the seizure, or afterwards, there is much pain in the head, flushing of the face and appearance of fulness; leeches, from six to eighteen, may be applied, or half-a-pint of blood taken from the back of the neck by cupping; but in these cases, much caution is always required in the abstraction of blood. In such a case as the last, more active purging will be admissible. Mustard plasters to the calves of the legs may in some cases be advantageous. The great essential, however, is the most perfect quietude; with this, time will be the best restorative, the diet being kept light and free from stimulants, and the bowels attended to. If the urine become scanty in quantity, cream of tartar drink—imperial—will be of service, or five grains of carbonate of potass, with five grains of nitrate of potass, may be given twice-a-day in a wine-glassful of water. Moderate friction with the hand to the affected side is not only soothing and comfortable in most cases, but probably expedites the returning strength. Exertion of any kind must be very slowly and gradually resumed; but all this will be regulated by a medical attendant, under whose care the case must be placed. In some cases of severe paralysis the natural functions are performed involuntarily, and much trouble is required to preserve cleanliness.

The case in which the lower limbs are paralysed, the upper portions of the body, being unaffected is named "Paraplegia;" it may be owing to disease in the brain, but is more generally caused by disease or injury to the spinal marrow—See *Nerves.* It is generally a very hopeless disease. When the result of injury, the symptoms

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cold, when it occurs, is apt to
than needful alarm. When
' cold, one or two doses of calo-
locynth, or calomel and com-
arb pill ; a blister, and a grain
three times a day are the best

rnal of Psychological Medicine,
alysis of the tongue, the result
fit of passion, is recorded. The
iculation was lost for some days,
d under the use of electricity.
i lead, and, according to some,
re exposed to the influence of
r arsenical vapours, are apt to
paralysis of the hand, ' drop't
is called.
y usually occurs in those who
long exposed to the influence
on, and the majority of those
re suffered from lead colic. The
ceded by lassitude and feeling of
nd by stiffness of the parts about
d, the loss of power gradually
In a few cases, loss of sensa-
observed. Lead palsy is not
the hand and arm, but affects
ns of the body, although the
most frequent site. The most
rm of this disease, affects the
espiration which move the ribs,
quickly fatal. No treatment
effectual could be undertaken
sional persons, and the disease
is not one likely to occur apart from medical aid. It is well here to reiterate the caution to those who are employed amid lead or its preparations, that they observe the utmost cleanliness, especially at meals, for there is good reason to believe, that the poison often finds its way into the system from carelessness on this point.—See *Colic—Lead, &c.*

Shaking palsy, in one form, is generally the result of old age, in another it is more traceable to direct disease of the brain, and is very apt to occur in those who have drank freely. It comes on very insidiously, and even under the best care, is a very hopeless affection as regards cure. This is a different affection from the " mercurial tremor, " with which those who work in that metal, such as gilders, are liable to be attacked.†

Refer to *—Apoplexy—Nerves, &c.*

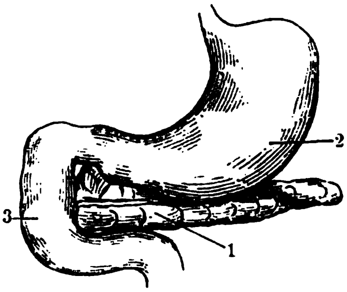
PANACEA.—A remedy capable of curing all diseases, it is, perhaps, needless to add, an imaginary one.—A " Myth."

PANADA.—A food for children and invalids, best made by boiling for a length of time in water, or milk and water, thin slices of bread previously well dried in the oven.—Refer to—*Children.*

PANCAKES.—The well-known article of food ; they are unsuitable for invalids.

PANCREAS.—The pancreas—fig. A, 1, —is a narrow gland from six to seven inches in length, which is situated behind the lower portion of the stomach—fig. A. 2,—It is sometimes compared in shape to a dog's tongue. It secretes a fluid, somewhat resembling the saliva, which is poured into the duodenum — fig. A, 3, — through a " duct," which enters the bowel by the same opening as that which conveys the bile, the two fluids mingling with the digested food pulp, or the chyme, at the same time, and neutralizing its acid properties.

A



Refer to—*Alimentary Canal—Digestion.*

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* See Appendix.

† Scrivener's or Writer's Palsy.

PAPILLA.—Is a small eminence upon the surface of an organized body. The minute points visible upon the tongue, are called the papillæ.

PAPINS' DIGESTER.—See *Digester.*

PARALYSIS.—See *Palsy.*

PARAPLEGIA. — Palsy of the lower portions of the body.—See *Palsy.*

PAREGORIC, or **Paregoric Elixir.**—An anodyne. English paregoric, is also called "Camphorated Tincture of Opium," or compound tincture of camphor; of this half an ounce contains one grain of opium. Scotch paregoric, also called "Ammoniated Tincture of Opium," is four times the above strength, containing four grains of opium in every half-ounce. These preparations should be purchased ready made.

Refer to—*Opium.*

PARENT.—See *Hereditary — Marriage —Idiocy, &c.*

***PARIETAL BONE.**—See *Skull.*

PAROTID GLAND. — Is one of the glands which secrete the saliva. It is situated a little below, and in front of the ear, and fills up the space beneath the "angle" of the lower jaw. Its "duct" which conveys the saliva into the mouth, opens between the gum and the cheek opposite the second double tooth. It is this gland which is swollen, inflamed, and painful, in the "mumps."

PAROXYSM. — A periodical accession or aggravation of certain symptoms of a disease; an attack of toothache may be called a paroxysm; there are paroxysms of ague, of mania, &c.

PARSNIPS. — Contain a considerable proportion of saccharine matter, and are nutritious, but often disagree with weak stomachs. They are considered diuretic.

PARTURITION.—See *Child-bed.*

PASSION.—It is sufficient here to allude to the serious effects which may follow the indulgence of violent passion. Those who give way to it are often themselves sensible, either during the paroxysm, or at its close, of unusual sensations about the region of the heart. There can be no question, that this important organ is much influenced by these violent mental emotions, one of which, may lay the foundation of that disease, which another may ripen into sudden death. And what a death!

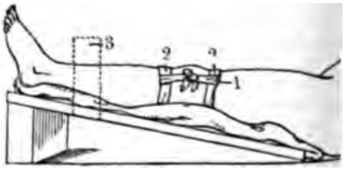
†**PASTRY.**—See *Confectionary.*

A

‡**PATELLA.**—The knee-cap, or knee-pan, is the small, somewhat oval, or heart-shaped bone,—fig. A,—which is contained within the tendon of the "extensor" muscles of the lower extremity, serving at once to protect the important joint which it covers, and to give proper direction to the muscular power on the fore part of the limb. knee-cap is very liable to be fractur rather torn across, in falls where the vidual in the endeavour to save hi violently exerts the muscles of the li painful shock, as from a blow, is felt, a power of extending or advancing the is instantly lost; when examined, the ciency occasioned by the absence of the half of the knee-cap, is at once app this being drawn more or less up the fo of the thigh by the action of the mu When the knee-cap is broken, as it times is by direct violence, the displac is not so great, but the accident is gen more serious, owing to the violence inj the knee-joint generally. The treatm transverse fracture of the knee-cap, m with care, be managed by an unprofes person in the absence of a medical The principal object in the treatment o accident is, to remedy the displacem drawing upwards of the upper fragm the bone, which takes place, in consequ of the muscles of the thigh with wh is connected, being set free from the teracting power of their attachment t upper part of the bone of the leg, their mon tendon in which the knee-cap is bedded, being torn through, as well a bone.

It must be evident to any one, tha placing the limb as represented—fig. by which the aforesaid parts are ren lax, not only will their tendency to

B



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* Parrira—see Appendix.

† Passion Iliac—see Colic.

‡ Italian Paste.—This expression is applied to Macaroni and Vermicelli, made from the finest and glutinous wheat. Vienna Paste is a powerful caustic paste made with Chloride of Zinc and Flour, and for the destruction of tumours and morbid growths, the disease called Lupus, &c.

up the upper fragment, be obviated, but that the position will permit of the bone being again brought down to its proper place; accordingly, the first part of the treatment of this accident, is to place the entire lower limb, as represented, on an inclined plane made of any convenient material, and cushioned of course; this being done, and the displaced fragment drawn as nearly as possible into its natural position, and in contact with the lower fragment which does not undergo displacement, some additional means must be employed to keep the parts steady; for this purpose, many different kinds of apparatus have been used, probably, the most easily managed, will be the simple one represented in the cut. This is formed by laying a strip of stout bandage, longitudinally, on each side of the injured bone—A, 1—these strips are then secured by a few turns of two circular bandages—2—2, —passed, one round the lower part of the thigh, the other round the upper part of the leg close above and below the fractured bone, the ends of the longitudinal bandages —1—being then tied, the apparatus is complete. It will be advisable, to add to the inclined plane, some additional protection as represented by the dotted line—3—to obviate the chance of the limb slipping off the apparatus. It has been observed, that those who have suffered fracture of one knee-cap, are more liable than others to suffer from a similar accident on the other leg. This is, probably, accounted for by the fact, that in a large proportion of cases, the two fragments of the "patella" which has been fractured, are not perfectly closely united, and that the person is, therefore, more liable to suffer a fall similar to that which produced the first accident. Some individuals, moreover, are more liable to suffer from rupture of the tendons generally than others. The knee-cap sometimes suffers displacement.—See *Knee.*

PATENT MEDICINE.—See *Quackery.*

PATHOLOGY.—The science of the nature of disease.

PEA.—The common garden pea, in its fresh or green state, and when eaten young, is wholesome and digestible, but when it has advanced towards ripening, the outer skin becomes very tough and indigestible, and passes through the bowels unacted upon by the digestive organs—in this condition it is very liable to lodge in the folds, or "sacculi," of the colon, or large bowel. If old peas are eaten regularly, and the bowels are at all torpid, a large accumulation of these pea-skins may take place, and at length give rise to troublesome irritation and diarrhœa. A dose of compound colocynth pill, or of castor-oil, is the best remedy.—See *Diarrhœa.* Peas in their young state contain a considerable amount of saccharine matter, but when ripe and dry, they, like others of the leguminous, or pulse tribes, contain much vegetable caseine—analogous to the curd of milk; indeed, so largely is this the case, that the Chinese make from peas a kind of cheese, which can scarcely be distinguished from that made from milk curd. Dried peas can, of course, only be used as human food with advantage when reduced to softness, or when ground into flour; when thus rendered digestible, they contain more real nutriment, that is, plastic matter, adapted to building up the animal frame, than even wheat or oats.

Refer to—*Diarrhœa—Grains, &c.*

PEACH,—the well-known fruit, is, when ripe, sufficiently digestible if eaten in moderation. The peach tribe derive their chief interest in a medical point of view, from the hydrocyanic, or prussic acid, which is obtained from various parts of the plants by distillation. Peach kernels yield it largely, also the blossoms and the young leaves; preparations from these, therefore, must be employed with great caution. An infusion of the dried leaves of the peach has been used in cases of worms.

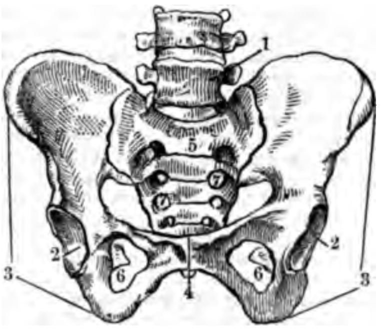
PEARS—are apt to disagree with many persons.

* PEARL-BARLEY.—See *Barley.*

PEDICULI.—See *Acari.*

PELVIS,—literally, means a basin, the term having been given to the particular region of the body from its fancied resemblance to that utensil. The pelvis—fig. A—is the irregular structure of bone which supports the spine—fig. A, 1—and which rests upon the thigh bones, the round

A



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* Pearl Ash—This name is applied to the Potash of commerce—see Potash.

"heads" of which are fitted into the cups, or cavities—2, 2—see *Hip*. The pelvis is composed essentially of three different bone masses; two of these, the "*ossa innominata*"—3, 3—form, together, the sides and forepart of the pelvic cavity, being united in front—4. The back part of the pelvis is formed by the "*os sacrum*"—5—a triangular bone, which fits like the wedge or key-stone of an arch between the two side-bones of the structure. On the top of this bone, which appears, and may be regarded to be a number of vertebræ, or spine bones, cemented together, the spine is placed; its central canal, or cavity, which incloses the spinal marrow, being continued down the centre of the sacrum—in which the holes—7, 7—give passage to small nerves. The side bones—3, 3—although in the adult they are united into one piece, are not so in early life, but are in three divisions; for the sake of convenience in describing, &c., anatomists retain these distinctions even in the adult bone. A little consideration will show any one how much strength is imparted to the important bony construction above described, which is, moreover, so placed, or balanced, with respect to other portions of the body, as to throw the weight on those portions of itself best calculated to sustain it, and the whole upon the thigh bones in the most advantageous manner possible. Further, the whole structure of the pelvis is made as light as can be compatible with strength. The sacrum bone—5—is the lightest bone of the body for its size; and in the arrangements of these pelvic bones generally, wherever ligament can be substituted for bone, we find it is so; thus, for instance, the two holes—6, 6—instead of being filled up with bone, have merely a thin, light, ligament stretched across.

There is considerable difference in shape between the male and female pelvis; the latter being more broad, ample, and expanded than the former, in every way—a matter of necessity in child-bearing particularly, so as to afford sufficient room for the passage of the infant, the head of which is for the most part adapted to pass through the pelvic cavity by a series of turns. The near adaptation, in most cases, of the infant head to the passage through the almost unyielding pelvic bones, must obviously make it a matter of the highest importance, that in the female these bones should attain their full expansion and development; this they do in the majority of instances, but in some cases, particularly in consequence of disease, the room afforded in the pelvis becomes seriously diminished, so as to make ordinary child-birth impossible. In such instances, the life of the infant is alm certain to be sacrificed, and that of mother to be put in great hazard; in eit case, a contingency which none should in knowingly. If, therefore, either in con quence of disease in early life, such rickets, or of natural deformity, or ac dent, there is reason to suspect deform of the bones of the pelvis, the female w is the subject of it, should not enter into bonds of marriage, without its first bei ascertained that child-bearing is possil without danger to life—this can be asc tained by medical examination.* If, af marriage, causes previously undiscovere or which have come into action afterwar should render ordinary child-birth hazardo from contraction of the pelvis, there yet mains the possibility of a living child bei preserved by the induction of prematu labour; it is, however, a question, how fa may be right to enter into marriage und such a proviso. The cavity of the pelvis inferior to, but continuous with that of t abdomen; the contents, or "viscera," the two being continuous.—See *Abdome* Fracture of the bones of the pelvis occ sionally occurs in consequence of acciden it is always a serious mishap, from the ci cumstance, that the violence which is cap ble of fracturing these strong bones mu in all probability, injure some of the in portant parts—the bladder especially which they naturally surround and guar The accident is not likely to be detect by an unprofessional person; if suspecte soothing measures to the painful parts, h fomentations, poultices, and leeches wou be advisable; the body being placed in t most easy position, and perhaps a banda a foot broad sewed round the hips, surgic assistance being procured without delay.

Refer to—*Abdomen*—*Bladder*—*Hip*-*Spine*, *&c.*

PENNY-ROYAL—is one of the mi tribe, found in wet places in England, a in Europe generally; it was formerly muc more esteemed than it is now. It possess the same properties as the mints generall It is said to have the power of driving aw fleas.

PEPPER.—Four species of the peppe are used by man—two dietetically a partly medicinally, the black and long pe pers; two strictly medicinally, the cubeb pe per, and the matico.—See *Cubebs*—*Matic* Long pepper occurs in the form of cyli ders, from an inch to an inch and a half i length, these being made up of numero little pepper-corns, or berries, compacte together; it is often used as a substitu for the next species, the black pepper, bo being brought from the East Indies and from the neighbouring islands.

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* Several ingenious instruments have been invented with the view of enabling medical men to arrive at more definite conclusion as to the size of the Pelvis. They are called Pelvimeters.

Black pepper is the fruit of a trailing plant, the berries being produced on spikes or stalks to which they closely adhere. When half ripe, they are red, and in this state are gathered; in drying they become black and shrivelled, assuming the form of the common black pepper corns. When allowed to ripen, they are divested of their husks, and then form white pepper, which is milder than the black. The aromatic, stimulant, and carminative properties of pepper, are too well known to require description, they may often be conveniently taken advantage of when stimulants are required; ten to twenty grains of ground black pepper may be given at once, if given in milk. Black pepper has been used as a remedy in ague, and might be tried in the absence of other more certain medicines. A confection of black pepper is used as a remedy in piles. Peppers, even when whole, are liable to adulteration, still more when ground. In the investigations of the *Lancet* Sanitary Commission, it is stated, "Some years since it was not uncommon to meet with artificial pepper corns." "This spurious pepper was made of oil-cake, common clay, and a portion of cayenne pepper, formed into a mass, and granulated by being first pressed through a sieve, and then rolled in a cask." Of course the adulterations of ground pepper are more easily effected. In the report of the above investigations, an extract from Mitchell's "Treatise on the Falsification of Food," states, "In the state of powder, pepper is nearly always adulterated, substances being sold for the express purpose. It is often mixed with the powdered husks of mustard, which are openly sold for this purpose, as is also the sweepings of the pepper warehouses, under the name of 'P. D.' or pepper dust." In addition to the above, linseed-meal, wheat-flour, pea-flour, and sago-meal are also used to adulterate ground pepper and were detected in various samples by the *Lancet* Commissioner. Jamaica pepper, or allspice, is an agreeable aromatic, applicable to the same purposes as aromatics generally. The powder may be given in doses of from ten to thirty grains.

Refer to—*Capsicum*.

PEPPERMINT.—See *Mints*.

PERCUSSION—in medicine, is the process of eliciting sounds from any portion of the body, by striking upon it, or some interposed medium, by means of the fingers, or by an instrument adapted for the purpose. The object of eliciting those sounds, and the mode in which, to the educated ear, they give information of the condition of the parts beneath, has been sufficiently explained in article, *Lung*.

PERFORATION.—The term in medicine is chiefly used to express the formation of an aperture in some portion of the coats of the alimentary canal, which allows the escape of a portion of the contents of the stomach or bowels, into the cavity or sac of the "Peritoneum," thereby causing agonizing pain, severe inflammation, and in almost every instance death. As the escape of a small portion of the contents of the canal is sufficient to occasion these severe symptoms and fatal consequences, a very small opening may be the occasion of death. The most common sites of the perforation are the stomach, or the small bowel near its junction with the large, in the latter case, usually occurring in the progress of fever, and being occasioned by ulceration.* The occurrence of perforation in the stomach, is often for some time preceded by dyspeptic symptoms, pain, especially after food, and perhaps vomiting. Females, especially those of a weak, lymphatic, or scrofulous constitution, are more liable to it than males; but it may happen in all constitutions, and without previous symptoms. When perforation occurs, and the contents of some part of the canal escape, there is sudden, intense, agonizing, burning pain, perhaps vomiting, and there is extreme depression or collapse of the system generally. In such a case, the hope of saving life is very faint, even under the most skilful treatment, and of course a medical man should at once be procured. All that unprofessional persons can do is to mitigate the intense agony, which opium alone can relieve. Full doses of whichever of its preparations are most easily procurable may be given, and repeated at short intervals, until some relief is obtained. Heat to the bowels may afford some comfort. If there is much vomiting, the opium will, as in all similar cases, probably be best retained if given solid, in the form of pills—of one grain each in such a case—opiate clysters, containing each thirty to forty drops of laudanum, may be serviceable. When there is great depression, if the person survives some time, stimulants, wine or brandy, are given.

Refer to—*Inflammation*.

PERICARDIUM.—The bag in which the heart is inclosed.—See *Heart*—*Carditis*, *&c.*

PERICRANIUM—the membrane which invests and adheres to the bones of the skull; in other bones the corresponding membrane is named the Periosteum.

PERINEUM.—The space at the fork of

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* See Appendix, article—Enteric or Typhoid Fever, also called Gastric Fever.

the lower limbs, between the fundament and the generative organs.

At this spot the operation of cutting for the stone, in males, is usually performed. Falls, with the legs astride any body sufficiently narrow to allow it to bruise the perineum, are apt to be followed by serious consequences, bloody urine, or complete stoppage. For the same reason, the practice of "hoisting," carrying an individual astride upon a piece of wood, either in the way of practical joke or punishment, is seriously to be condemned.

PERIODICITY.—The recurrence at regular intervals of marked phenomena in the progress of vegetable, or of animal life, is at once one of the most interesting, one of the most certain, but at the same time—as to cause—one of the most obscure facts in the range of scientific inquiry. Among plants, a daily periodicity is so well marked, both as regards their opening and their closing, that it is familiar to all, even the children know when the daisies and the clover "go to sleep;" and the famous Linnæus constructed, or rather arranged, what he called the floral clock, from the times of the opening and shutting of certain plants. It is sufficient to allude to the different, but regular times of leafing and flowering of tree and plant, to the certain returns of "seed time and harvest," to confirm, that what holds good in the revolution of the twenty-four hours, does so throughout the year. In the animal kingdom, periodicity is equally well marked, each kind carries its young a certain time; with slight variation, the changes from the cradle to the grave in man, progress in well marked periodical order. What is observed in health is seen also in disease. The regular return of the paroxysm in the quotidian, the tertian, the quartan ague; the regularity with which the eruptions of scarlet fever, small pox, or measles, appear and decline, all tell of the same thing, the nightly hectic of the consumptive patient does so also. These are well marked instances, so much so, that they cannot fail to attract attention, but there are doubtless, numberless others in the progress of disease, equally interesting and important, but unobserved. The causes of periodical changes are generally very obscure; some, unquestionably, such as the lunar influences upon the tides, the effect of prolonged heat and light, as from the sun, in stimulating vegetation, we can readily distinguish and appreciate, but the majority are beyond our ken. Some may be connected with the hidden springs of life, others are more than probably linked with the barometric and electric changes, which are continually going on in t diurnal revolution of the twenty-four hou The following table, drawn up some ye since by Dr. Laycock, of York, in so degree indicates the nature and connexi of periodical changes:—

Table of the Meteoric and Physiologi Events occurring at the Barometric hou during a solar day of twenty-four hours.

4 to 5 o'clock, A.M.

Barometer at its minimum height.
Minimum of electric tension, nearly.
Intermediate minimum variation east magnetic needle.
Minimum of temperature.
Hour at which several flowers bloom.
Certain moths escape from the chrysalis.
Minimum consumption of oxygen.
Onset of cholera, epidemic diarrhœa, Egy tian ophthalmia, and quotidian ague.
Period of increased excitement in t insane commences.
Hours of alleviation of symptoms and sleep in hectic and infantile fever.

4 to 5 o'clock, P.M.

Barometer at its minimum height.
Minimum of electric tension.
Minimum variation east of magnetic needl
Certain moths escape from the chrysalis.
Termination of a paroxysm of quotidi ague.
Onset of a quartan ague.
Exacerbation of fevers; accession of hect fever.
Period of increased excitement in the insa begins.

8 to 10 o'clock, A.M.

Barometer at its maximum height.
Maximum of electric tension.
Maximum variation east of magnetic needl
Maximum excitability of the circulation.
Maximum of muscular power.
Period of increased excitement in the insa ends.

8 to 10 o'clock, P.M.

Barometer at its maximum height.
Maximum of electric tension.
Maximum variation east of magnetic needl
Meteoric lightning and thunder stor appear.
Certain insects escape from the chrysalis.
Consumption of oxygen at its minimum.
Minimum of muscular power.
Minimum excitability of the circulation.
Hour of natural sleep.
Period of increased excitement in the insa ends.
Paroxysm of a quartan ends.

In connection with the above, Dr. Laycoc remarks: "What effect have barometri variations on animal life, and especially on the phenomena of epidemics?" Huxham specially refers to the phenomena of intermittent fevers, as being probably influenced by barometric variations, through the varying pressure of the atmosphere on the veins. More recently, Sir D. Barry took up both the pathological and physiological views of Huxham, and in the same spirit observes: "1st It being now evident that the blood in the veins is placed under the influence of atmospheric pressure, it would be curious to trace the connection which appears to exist between diseases generally,— intermittent fever, for example, and the daily atmospheric variations." The reader will see at once that facts countenance these speculations. 2nd. Has the electricity of the air, or the magnetism of the earth, any influence on vital phenomena? If any, we may infer, *à priori*, that the results would be seen in the nervous system. Now, according to the table, the period of increased excitement in the insane commences when the electric tension of the air, and the variation east of the magnetic needle, are at a minimum, and *vice versâ*. The unpleasant influence of thunder-storms is well known to persons of nervous temperament, and to those predisposed to disease of the nervous system; and as these occur most usually in the evening, we should look for nervous attacks at that time.

The whole subject of periodical changes has hitherto been too little attended to, when its importance, and the magnitude of the scale on which these changes take place, are considered. Under article *Influenza* it was stated, that during the occurrence of that epidemic, remarkable barometric changes were observed.

PERIOSTEUM.—The membrane which closely adheres to, and invests the bones, except at their articular or joint-forming surfaces.—See *Bone—Node, &c.*

PERISTALTIC.—The contractile, worm-like movements of the intestines.

PERITONEUM.—The peritoneum is the "serous" membrane which lines the abdomen, covering both its walls and its contents —the viscera. The peritoneum is what is called a "shut sac,"—in its interior; it contains simply the serous fluid which it secretes, and which facilitates the movements of its interior surfaces, and, consequently, the various movements of the bowels, &c., upon each other; the parts which the peritoneum covers, all lie exterior to its cavity, the outer sides of the "sac" being folded over them. In dropsy of the belly, the water is effused into the cavity of the "sac." Wounds which open the peritoneal covering of the bowels, are always extremely dangerous, from the liability of this membrane to become violently affected with spreading inflammation. Peritoneal inflammation — *Peritonitis* — also arises from other causes, such as prolonged parturition and the like.—See *Inflammation*.

[*]**PERSONS FOUND DEAD.**—See *Death*.

PERSPIRATION.—See *Skin*.

PERUVIAN BARK.—See *Bark*.

PESSARY.—An instrument used to support the womb when displaced.—See *Womb*.

PESTILENCE.—See *Epidemic*.

PETECHIÆ—are spots which appear upon the skin in certain forms of fever, They often resemble and are mistaken for flea-bites. Petechiæ frequently assume different colours and forms, differences which have lately been assumed as one of the distinctive marks between the typhus and typhoid forms of fever.

PETROLEUM,—literally "rock-oil," a liquid bituminous substance which flows from the clefts of the rocks in some countries.[†] Like other oils, however, its origin is in the first instance vegetable. In Trinidad it occurs in beds or lakes. Petroleum has been recommended as an external application in rheumatism, and in skin diseases. It is not much used at present.

PHAGEDENIC,—a term applied to a form of ulcer, which, from its rapid extension, gives the idea of the tissues being eaten away.

PHARMACOPEIA—is a book or system which includes the medicinal agents, their preparations, and mode of preparation, authorised by the principal, legally constituted medical authorities of the kingdom: also the measures and weights which are to be employed in dispensing the medicines. In the United Kingdom, there are the three Pharmacopeias, of England, Scotland, and Ireland, which, although they agree in general arrangements, and in the general recognition of medicines and their preparations, yet differ in so many important particulars, as to cause not only confusion in many instances, but even danger.[‡] Thus, for example, under the head of *Paregoric*, it was pointed out that the preparation which goes by that name in Scotland, contains four times as much opium as the paregoric of England, a difference quite sufficient to give rise to poisoning. Medical men and druggists must, it is true, or ought to, be alive to all such differences; but others are not, and even in the compounding of prescriptions, accidents are possible, through inadvertence. An individual who has received a prescription from a practitioner in any one of the three kingdoms, ought, if sending it to be made up in another, to mention the fact. It is the safest plan. New Pharmacopeias are issued by the various colleges at intervals of years, with such alterations and amendments as the progress of medical and pharmaceutical science render necessary. A new London Pharmacopeia was issued in 1851. The medicines alluded to in this work are generally in accordance with it.

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[*] PERMANGANATE OF POTASH, Solution of, or Condy's Fluid—see Appendix, article—Disinfectants.

[†] The Oil-springs of North America have been brought into working since the above was written.

[‡] For a short account of the New British Pharmacopœia—see Appendix.

Refer to—*Medicines—Measures—Weights.*

PHARMACY.—The art of preparing medicines.

PHARYNX.—See *Throat.*

PHLEBOTOMY.—The cutting or opening of a vein for the purposes of blood-letting.—See *Blood-letting.*

PHLEBITIS.—Inflammation of the veins.—See *Vein.*

PHLEGM.—Mucus.—See *Mucus.*

PHLEGMASIA.—Dolens.—See *Leg, Swelled.*

PHLEGMON.—The term is generally used in connection with inflammation, as in erysipelas, which affects the cellular tissue beneath the skin.

PHOSPHATES.—Compounds of phosphoric acid.—See *Phosphorus—Soda, Phosphate of, &c.*

PHOSPHORUS, classed among the elementary bodies of matter, is interesting in this work, less for its medicinal properties, or preparations, than for the share it takes in the composition of animal bodies, and for its extensive economic uses.

After its discovery in 1669, phosphorus was prepared from urine, it is now chiefly procured from bones, and is made in large quantities for the manufacture of the various kinds of lucifer and other "instantaneous lights," of which it forms the essential.

When pure, phosphorus at an ordinary temperature looks, and cuts like darkish coloured wax, it is very inflammable, and when cut or handled should be kept under water. It is usually sold in moulded sticks; its luminous properties in the dark are subjects of popular information.

Phosphorus in the form of its salts, that is phosphates of lime, magnesia, potass, &c., exists in the soil, whence it is, in this compound state, absorbed by vegetables, and by them handed over to the animal creation; in the seeds of the grains, especially, phosphorus exists in comparatively large proportion.

In the animal body, phosphorus is an essential constituent of the albuminous—See *Albumen*—and fibrinous compounds, it enters into the composition of the substance of the brain and nerves in considerable proportion, and largely into that of the bones, to which the phosphatic earthy salts give much of their solid firmness. As phosphorus is contained in the various tissues of the body, it of course exists in the blood, and in milk, which is suited to be the sole nutrient of the living animal; it also exists in the excretions, as stated above, in the urine, and also in the discharges from the bowels.

Various preparations of phosphorus have of late been brought forward as medicinal agents, but do not require notice here—*Phosphate of Soda.*—See *Soda.* The large use made of phosphorus in match manufactories, invests it with great interest, and the peculiar manner in which, under careless management, it has been found to affect the health of a few of the work-people, demands attention from its hygienic importance. Some persons who have been employed for a length of time in a lucifer-match factory, become affected with disease of the lower jaw, portions of the jaw-bone become "necrosed," or die, cause abscesses in their vicinity, and are either cast off by the natural processes, or require to be removed by the surgeon.* In some cases, nearly the entire jaw has thus been lost. Probably, constitutional predisposition has something to do with the liability to this phosphorus disease, but, at the same time, there is no question that, in other manufactures, free ventilation of the places in which the processes are going on, and strict attention to cleanliness on the part of the work-people, must prove great preventives. It is said, that saucers filled with turpentine, distributed about the workrooms, by absorbing the phosphoric vapours, are a safeguard. There is, however, a prospect that by the use of phosphorus, in its peculiar "amorphous" condition, for the manufacture of lucifers, not only may the evils attending the manufacture be prevented, but also the accidents which have occurred from children sucking the common lucifers, and thereby being poisoned. The following account of the amorphous phosphorus, is at once very interesting, and well illustrates one of the most curious points in chemistry, the existence of the *same* body in most opposite conditions, and possessing most opposite qualities. The extract is taken from a paper read by Dr. George Wilson, before the Royal Scottish Society of Arts, in April, 1852.

"The simplest lucifer match consists of a splinter of wood dipped into melted phosphorus, and then covered with gum or glue. More frequently, phosphorus is associated with chlorate or nitrate of potass, and with sulphur or sulphuret of antimony. The employment of such materials necessarily renders the manufacture a very hazardous one, from the risk of fire; and in certain of the Continental states, the preparation of lucifer matches has been absolutely prohibited. Another and quite unexpected hazard was soon found to attend their manufacture. The work-people were attacked by a very painful, and often fatal disease of the jawbones, which became carious, occasioning in many cases death, in several the loss of the upper and under jaw, or other severe mutilation and disfigurement, and always much suffering. The German surgeons, who have paid great attention to this distressing disease, refer it to the absorption of the vapour of phosphorus, given off chiefly during the drying of the matches, but likewise at other stages of the manufacture. Phosphorus, also, is well known to act as a poison when swallowed in the solid form, and as it occurs in this condition in lucifer matches, fatal accidents have more than once occurred from children sucking them. The red or amorphous phosphorus is much less combustible than ordinary phosphorus, and not at all poisonous. To prepare the new substance, ordinary phosphorus is melted in a peculiarly constructed retort, and kept for some hours at a temperature of about 500° F. A very singular change is the result of this heating, during which the phosphorus combines with caloric, and renders it latent, but does not otherwise undergo any chemical alteration. The original phosphorus was a pale yellow, or white transparent body, so combustible that it must be kept under cold water, and when brought into the air grows luminous even at the freezing point, and enters into full blaze at a temperature of about 150° F. By the prolonged heating, it becomes a soft opaque mass, which is easily pulverised, and then forms an uncrystalline powder of a scarlet, crimson, purple-brown, or brown-black colour, so incombustible that it may be exposed in summer in the open air and handled with impunity; nor does it grow luminous till it is about to enter into full combustion at the temperature of 482° F. It is further so harmless to living creatures, that more than a hundred grains have been given to dogs without doing them any injury. Although, in its free state, it is sparingly combustible, yet, when it is mixed with the ordinary ingredients of lucifer-matches, such as sulphur, or sulphuret of antimony and chlorate of potass, it kindles readily. In proof of this, matches made with amorphous phosphorus were shown to ignite as easily as those made with ordinary phosphorus; and it was stated, that they would soon be manufactured on the large scale, and sold, it was believed, as cheaply as the common matches."

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* Many of the German Hospitals have numerous cases of this affection of the jaw from Phosphorous, under treatment, and it is satisfactory to know that the ingenuity of modern surgeons has devised a means of operating in every way preferable to the old operation for removal of the jaw.

The following are stated as some of the advantages connected with the use of the new form of phosphorus, that 1. "It involved much less risk of destruction of life and property by fire; 2. It was more suitable for matches intended for warm climates; 3. It was not poisonous in the solid form, so that matches made with it would be comparatively harmless if sucked or chewed; 4. It gave off no vapour at ordinary temperature, so that it could not occasion disease in the match-makers."

One more word about phosphorus. It is constantly being abstracted from the soil by vegetables, especially by those, such as the grains, used by man and animals. If this constant withdrawal of its phosphates from the soil, is not compensated for, it becomes incapable of developing its vegetable produce in plenty and perfection, hence, cultivators resort to bone dust, and other expensive means of making up to the earth in one way, what they draw from it another. Urine contains phosphorus abundantly, but every method is resorted to, to conduct the vast stream of phosphates, which issues from every large city, or from many a farm-yard, by the most expeditious road, into that sea, which is at the same time bearing vessels freighted with foreign manures!

PHRENITIS. — Inflammation of the brain.—See *Brain*.

PHTHISIS.—PULMONALIS—PULMONARY CONSUMPTION.—See *Consumption*.

PHYSIC.—See *Physician*. Among the lower orders in some places, the term physic is applied solely to purgative medicines.

PHYSICIAN, "M.D." or "DOCTOR OF MEDICINE." These titles are rightfully assumed by those, only, who have undergone, successfully, the examination instituted by Colleges or Universities, legally chartered to grant such titles or degrees. The conventional meaning of the term physician, is, one who treats internal diseases of the body alone, in contradistinction to surgeon, one whose province is the treatment of external disorders, and the performance of operations, and to accoucheur, one who devotes himself solely to the diseases of women, and particularly to the management of child-birth. To these may be added what was formerly the apothecary, and is now the "general practitioner." These divisions into physician, surgeon, accoucheur, and apothecary, arose at a time when the science and practice of the healing art was very different from what it is at present. The physician was the only educated man, as Chaucer says—

"In all this world ne was ther non him like
To speke of phisike and of surgerie."

He probably practised the higher departments of surgery, as well as medicine strictly so called. The ordinary surgeon added to his emoluments by the trade of the barber, and the apothecary was the mere vendor of drugs; the separate department of the accoucheur is comparatively of recent date. Time, and the tendencies and requirements of the age have abundantly changed these old distinctions, chiefly, with respect to the position and standing of the general practitioner; the physician and surgeon have been advancing in scientific requirements, but the general practitioner has approached them so closely, that all seem likely before long to merge in one profession in name, as they now, in great measure, do in practice. The surgeon cannot be a good surgeon, in the proper sense of the word—not meant to designate a mere operator—unless he is also a good physician; and the physician, if he does not handle the knife, must be a good anatomist to practice his profession properly. In large towns, and in certain districts, the distinction into pure physician and into pure surgeon, is maintained, and, as at present, with advantage, at least when age, experience, or peculiar talent have fortified the titles; but the great mass of medical men must be "general practitioners," highly educated, and fitted for every duty of the healing art; with such a class the kingdom is rapidly filling, and many of its members, whatever their title, stand, and will stand, among the foremost in their profession, and must be the "consulting men" of future years, when time and experience, combined with talent and industry, have given them a claim to the honour; the high education of all medical men is now levelling every distinction. As long as the education of the physician was so infinitely superior to that of the medical profession at large, the prestige which attached to the title was its just due; it still is its just due as the tribute to the mark of high attainment, but it is not just, when paid to the exclusion of the profession generally, the members of which, as a body, whatever their title, must now, or at least in a few years, be all as nearly on a level as the difference between man and man permits. Nay, more, the medical profession, as the education of its members is now conducted, must become the most highly intellectual body of men in the kingdom. The studies of a medical man *must* embrace the widest possible range, from the simplest truths of mathematics and of natural philosophy, to the latest developments of practical psychology, and within this range their knowledge is *real, true* knowledge, the knowledge of the manifestations of God in His works; and their deductions from t knowledge must be, the alleviation of t physical, and many of the mental, evils fallen man, and higher still, their preve tion; *for it must ever be to the honour the medical men of the present age, th though their bread may be said to be g through the misfortune of their fellow-me they have been ever the foremost to poi out how these misfortunes are to be avoide they have been the first rousers, and t chief leaders of the sanitary moveme* everywhere. In large cities, and in th metropolis especially, there always will b probably in an increasing degree—and it expedient there should—a division of labo among medical men; one will take th skin, another the eye, another the ches and so on, as his particular department, an will attain such acquirements in connexio with his own department, as will give him extra claim to confidence when that is co cerned, especially in obscure or difficu cases, but this cannot be with the kingdo at large; and in the provinces, the great ma of disease must continue to be the care the general practitioners, whose experience leading members must, under the prese system of education, become what the ph sician has been.

The above remarks may appear to so irrelevant to the present work, but the pu lic generally require some enlightenment to the present constitution of the professio and on the bearing of its different membe to one another.

Refer to—*Practitioner, General—Surgeo*

PHYSIOGNOMY.—See *Countenance.*

PHYSIOLOGY.* The science of th functions of living bodies, generally an specially.

PICKLES.—Vegetable substances pr served in vinegar. Even when well pr pared they are not very digestible, but th generality of those purchased are deleterio on another account—the more or less amou of copper which they contain, this poisono addition being made, to impart the fre green colour so generally desired by th purchasers and consumers of these article The recent investigations of the *Lan* Sanitary Commission on this subject, di closed the fact, that all the pickles ex mined contained more or less copper; i some it existed in poisonous quantity. Th slightest impregnation with this poiso cannot be too strongly condemned, but it probably used, at times, in ignorance, fo even some cookery-books openly advise it employment to "green" pickles. Fortu nately, the detection of this adulteratio even in a small proportion, is easy. If perfectly clear and bright piece of iron—wire will do—be immersed for a few hours in the vinegar of the pickle, if copper is present the metal will be deposited in a perceptible, though thin, crust upon the iron. "Another very simple and efficient method of detecting the presence of copper in pickles, is the following:—Put three or four drops of the suspected vinegar on the blade of a knife; add one drop of sulphuric acid, and heat the under surface of the knife over the flame of a candle; the vinegar, in evaporating, will deposit the copper upon the iron, if any be present." In the investigations of the *Lancet*, it was ascertained "that the pickles which contain the largest quantity of copper, are those which consist entirely of green vegetables, as girkins and beans."

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* Called also, "The Institutes of Medicine."

Sulphuric acid, which is detected in pickles, comes more under the head of vinegar adulterations.—See *Vinegar*.

PILES, or HEMORRHOIDS—are tumours which form at the verge of the anus, or fundament, and may be situated either within or without the bowel; they are either what are called "blind," or they are bleeding piles. Piles are often constituted by an enlargement or "varicose" condition of the veins situated about this part, this enlargement being caused by whatever tends to obstruct the return of the blood through the veins of the abdomen generally; thus, affections of the liver, constipation, with overloaded bowels, pregnancy, &c., are all frequent causes of this form of piles, in which the swellings are generally smooth, and of the colour of the surrounding skin. Generally, the tumours vary in size, according to the operation of the acting obstruction; if they have occurred in consequence of pregnancy, they diminish or disappear after child-birth; if loaded bowels have been the cause, a dose of suitable aperient medicine relieves the effect. Sometimes the enlarged veins become filled with a fibrinous deposit from the blood, and then the tumours are permanent. Another form of pile is more of the character of a morbid growth, in it the tumours are more generally internal, and are red, florid, and uneven on the surface, and often very painful. From the causes of piles already stated, it may be imagined that the sedentary, those who are most liable to suffer from constipation and liver disorder, are also most likely to be the subjects of piles; the same may be expected to be the case with women who have borne large families. If the causes which first produced the disease, do not continue in active operation, or are guarded against, the hemorrhoidal tumours may continue long quiescent, and give little trouble; but if from any cause, whether neglect of the bowels, cold, the abuse of purgative medicine, &c., they become inflamed, much suffering is induced; the state is then called a "fit of the piles," which lays the individual up from active exertion. In other cases, instead of inflammation, bleeding may occur, and every time the bowels are relieved a considerable amount of blood may be lost by stool.

The preventive treatment of piles is of the first importance, and the causes of the disease pointed out, will at once suggest the remedies, which are, chiefly, a sufficient amount of exercise, and proper regulation of the bowels, with avoidance of food of too heating and stimulating a nature. If the liver is apt to get too loaded, it must be regulated—see *Biliary Disorders*—but in doing this, and also in regulating the bowels, it is of some importance what aperient medicines are employed: aloes, from their power of acting upon the rectum or lower bowel, are often said, when taken too constantly, to produce piles, but their effects in this way have perhaps been somewhat overrated. Certainly, if taken habitually in quantity to irritate, they will both cause piles and aggravate them when existing; but, on the other hand, the effect of aloes, in thoroughly unloading the lower bowels, and in stimulating the liver, renders the medicine a very efficient remover of the causes of piles. The moderate use of aloes, therefore, when an aperient is often required, need not be entirely eschewed by those who suffer from piles, unless they find by experience that the affection is aggravated by the use of the drug. The other aperients most useful in piles are, when active effect is required, castor-oil, or senna infusion; when a milder action is required, rhubarb and magnesia, in the form of Gregory's powder, the electuary of senna, or the saline medicines, such as Epsom-salts in small doses, largely diluted, will be found useful. Sulphur, combined either with an equal part of cream of tartar, or of calcined magnesia, forms one of the best of the mild aperients in piles; of either mixture a tea-spoonful may be taken for a dose, the first in treacle, the second in milk. It must be remembered, that except for unavoidable purposes, purging is to be avoided in those subject to piles, and that mild easy action of the bowels is to be encouraged; above all, such a state of bowels as permits the fæcal mass to become so hard as that it irritates or scratches the piles in passing, must be avoided. This is apt to occur if the bowels have been constipated for a day or two, in which case it is advisable to use a *small* clyster of warm water, so as to soften the contents of the bowel previous to evacuation; indeed, in those subject to piles, clysters—*if care be taken not to irritate with the pipe of the instrument*—form a most valuable adjunct to other means of prevention or of treatment.—See *Clyster*.

When from any cause, inflammation, or a "fit of the piles," is induced, the first essential is rest in the horizontal posture, so as to give every facility for the return of the blood from the affected parts; the diet should be reduced, made as cooling as possible, and the bowels kept lax by some of the means pointed out above. If the inflammation is severe, four or five leeches may be required; if not, warm fomentations and steaming will often give relief; at other times, the cooling lead lotion, or an ointment made with half a drachm of goulard extract, rubbed up in an ounce of lard, will be most serviceable.* When piles show a tendency to bleed, and indeed in any case, when they are decidedly developed, a medical man should be consulted; not solely on account of the pain and inconvenience resulting from the presence of the tumours themselves, but because of the constitutional tendencies they exhibit. The treatment of bleeding piles is often a delicate matter. If the loss is so great as to be manifestly weakening a patient, there can be but little doubt that it must be stopped, and may be with safety; but at other times it is a safety-valve which cannot without hazard be closed, as long as the cause which first opened it continues. That is to say, instead of stopping the loss of blood from the piles by direct applications, it must be done by constitutional remedies, adapted to diminish the plethora, either local or general, which originated the disorder; in this case, the preventive treatment of piles generally, as already stated, must be resorted to. Apoplexy and other diseases have followed upon the unwary closure of bleeding piles. After constitutional treatment, however, piles may continue to bleed merely from local causes; in this case, the drain is injurious, and must be stopped. Many remedies for the stoppage of bleeding piles are used. Common pitch, rolled into three-grain pills, and two of these, taken twice-a-day, is sometimes very efficient. Cream of tartar alone, in tea-spoonful doses, taken stirred in water, answers well in some cases. Mr. Vincent recommends, especially when protrusion of the bowel also takes place, that after each evacuation, a small injection, composed of one grain of sulphate of iron, or green vitriol, should be thrown into the bowel,
and retained. When inward piles are p
truded at the evacuation of the bowe
it is very important that they should
returned to their proper site as soon as p
sible, otherwise they are very liable to i
flammation and strangulation. A piece
linen, well oiled, is the best medium
exerting the pressure requisite for this o
ration. When piles reach a certain po
they may require a surgical operation
their removal.

Refer to—*Rectum*—*Leeks*—*Veins*, *&c.*

PILL.—This well-known and convenie
form for the administration of medicine i
mass of medicinal substance, of such cons
tence as to permit of its retaining the glob
lar form into which it is made. Pills m
be made simply of the active ingredients th
contain, with the addition of a little syru
gum mucilage, or treacle to give coherenc
but when the active ingredients, as, for i
stance, calomel, are not sufficient, either
regards bulk or consistence, to form a pill
this way, then some additional substanc
must be used; the most common, are bre
crumb, hard or Castile soap, soft extra
of liquorice, or conserve of roses.
the above, the pills made with conse
of roses, or with treacle retain th
softness for the greatest length of tim
pills made with bread crumb especial
soon become very hard; it is, however, v
convenient for the extempore preparati
of some pills, such as those of calomel, a
quinine. When used, the bread, whi
must be stale, is crumbed in the mor
with the fingers; it is then rubbed well
with the active ingredient; and, last
formed into an adherent mass by the ad
tion of a few drops of gum mucilage, or
syrup. When hard soap is used to fo
pills, it must first be scraped into th
shavings before it is mingled with the oth
substances. The soap may be in sufficie
quantity to form a mass without other a
dition, or a little mucilage, or syrup,
glycerine may be required. Soft extract
liquorice, or conserve of roses, generall
require to be simply rubbed up with acti
ingredients. Glycerine has recently bee
used as an addition, in small quantities,
pill masses, for the purpose of keeping the
moist, and answers very well for the pu
pose. A little fixed oil of any kind wi
also preserve softness.—See *Glycerine*.

After the composition of the pill, its si
and consistence are important consider
tions. Pills are frequently made too larg
that is to say, five grains in weight. N
only is a pill of this dimension uncom
fortable to most to swallow, but there
some chance that the whole does not b

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* An excellent ointment, as an external application to piles, is made as follows:—

Galls—eighty grains.
Opium in powder—thirty-two grains.
Simple Ointment, or fresh lard—one ounce.

This is equivalent to the well-known Gall and Opium ointment.

come dissolved in the stomach. A pill of three grains in weight will generally be found the most convenient and effective size. A pill must neither be too soft nor too hard, but in the matter of consistence, something must depend upon the length of time it is to be kept; pills that will be used in the course of a few days or a week, may be made with less attention to this object, than those which are to be kept an indefinite period. When the latter is the case, conserve of red roses may be employed, or spirit of wine added to pills, such as the compound colocynth, which contains resinous matters, or as stated above, a few drops of glycerine may be added to the pill mass before rolling. It is not likely that for domestic purposes a "pill machine" would be procured; the best method, therefore, of dividing a mass into separate pills will be, to weigh out twenty-four grains of the pill mass at once, and to divide this as nearly as possible into eight equal parts, or pills, rolling each between the finger and thumb, and when they are put together, adding a little flour, magnesia, or liquorice powder, to prevent their adherence. Pills which are likely to be kept for some time before use, should be preserved in a well-stopped or corked bottle, *but never in a box;* in the latter, they often get so hard as to be completely useless, and, in the aged especially, are apt to pass through the bowels perfectly unchanged. For domestic use, either in this country or in emigrant life, it is the most desirable plan to purchase compound pills, either in the mass, or ready rolled; as, however, it may prove useful, the composition of some of the most generally serviceable pills will be here given.

The most useful purgative pills for domestic store are:—

The Compound Rhubarb Pill.—Mild aperient.

The Compound Colocynth Pill.—Active aperient.

The Compound Gamboge Pill.—Very active aperient.

Blue Pill.—Best procured and kept in mass.

Plummer's Pill.—Alterative and diaphoretic—procured either in mass or rolled.

*Compound Galbanum Pill.** Stimulant and carminative—procured either in mass or rolled.

Expectorant, or Cough Pill.—See *Influenza.*

Many other forms of pill are ordered, and used, but it would serve no good purpose to burden either the memory or the medicine chest with them, especially as their composition is given when they are recommended in this work. Those above enumerated will be ample store, others may be made up as required.

The Compound Rhubarb Pill, one of the best, mildest, and safest aperients, is thus made:—

Take of

Rhubarb, in powder	4 drachms.
Aloes, in powder	3 drachms.
Myrrh, in powder	2 drachms.
Hard Soap, scraped . .	½ drachm.

Treacle sufficient to form a pill mass.

(Oil of caraway is often mixed with this pill, but it renders it more disagreeable to most persons.)

The dose of the compound rhubarb pill is from three to twelve grains. It may be kept either in powder to be made up with treacle (or syrup or gum mucilage) when required, or it may be kept in a soft mass, wrapped in oiled silk, or ready rolled. Persons going to warm climates would find the form of powder the best in which to keep this pill, preserving in a well-stopped bottle.

The compound rhubarb pill may be taken alone, or, in some cases, combined with one-third either of blue pill or calomel, especially in cases of biliary disorder.

The Compound Colocynth Pill is, perhaps, more extensively used in this country than any other purgative of the kind. It is considerably more active than the compound rhubarb. The compound colocynth pill is thus best made:—

Take of

Aloes, in powder, (see *Aloes.*)	
Scammony, in powder,	of each 3 drachms
Colocynth, in powder.	
Sulphate of Potash, ditto.	
Ginger, ditto . . .	of each 1 drachm.

Rectified Spirit sufficient to make into a pill mass.

As the remarks, both as to combination, keeping, &c., which have been made on the compound rhubarb pill, apply exactly to the compound colocynth, it is unnecessary to repeat them again. A very good addition to the compound colocynth pill, is that of a drachm of ipecacuanha powder to the quantities given above; in other cases, when it is desirable to sooth, and to prevent griping, one-third of extract of henbane, as ordered in the *Edinburgh Pharmacopeia,* is a most valuable addition.

The Compound Gamboge Pill is of less moment, as a store pill, than the above, but it is valuable for very strong individuals, who require powerful medicine, and where economy is an object: it is thus made:—

Take of

Aloes, in powder,	
Gamboge, ditto . .	of each 3 drachms.
Ginger	1 drachm.
Soap	4 drachms

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* This useful pill has been omitted from the British Pharmacopœia.

and beat into a mass to form pills. The dose is from three to twelve grains.

Blue Pill and Plummer's Pill, as stated above, should be procured ready made, and kept in mass, in well-closed pots; the latter pill, however, will keep well ready rolled.

Compound Galbanum Pill.—See *Galbanum.*

Expectorant, or Cough Pill, as given under article *Influenza*, is thus made:

Take of

Opium, in powder	25 grains.
Squill, ditto	80 grains.
Ipecacuanha, ditto . . .	60 grains.
Camphor, ditto, (see *Camphor Powder*)	90 grains.
Gum Ammoniac, ditto .	120 grains.
Rhubarb, ditto	60 grains.

The above pill will keep well, either in powder or rolled, and will be found the most useful and convenient form of cough or expectorant medicine, either in emigrant life, or elsewhere, particularly in chronic cough.

Many other combinations of pill might be enumerated, but the above, along with the information scattered throughout the present work, ought to be guide sufficient to any one of moderate intelligence.* Pills may be made, either in a mortar, or if the substance used is in small quantity, on a slab or Dutch tile, by means of a spathula.

Refer to—*Medicines, &c.*

PIMENTA.—Allspice.—See *Pepper.*

PIMPLES.—See *Skin—Sebaceous.*

PINE-APPLE.—The well-known fruit, is rather hazardous for those of weak digestive powers.

PINS AND NEEDLES—occasionally get fixed in the throat, from the careless and reprehensible practice of holding them in the mouth.—See *Gullet*. When swallowed, they generally work their way to, and show themselves at, some distant part of the body. Very recently, the author extracted a good-sized sewing needle from the thigh of a child about two years old. The needle could only have entered the body by being swallowed, and, indeed, its course into the thigh, could in some measure be traced by symptoms which had been exhibited some time before its appearance at the surface.

PITCH.—See *Tar.*

PLACENTA.—The after-birth.—See *After-birth.*

PLAGUE.—This disease, so well known to all by name, and, happily, by name only in this country, belongs to the class of malignant fevers. Its contagiousness has been disputed, but is testified by the best authorities who have had practical acquaintance with the subject. The last time the plague visited this country was in 1665, the period of the Great Plague of London; since then, however, it has appeared in, and ravaged various parts of Europe, as in Marseilles in 1720, Moscow in 1771, and Malta so late as 1816. Egypt, Asia Minor, and Turkey are at present the countries principally liable to the visitations of this fearful scourge; and, whatever other influences may be at work to foster its germs, and to perpetuate its presence in these lands, there cannot be the smallest doubt, that the total neglect and ignorance of the simplest laws of health materially add to the evil.

The symptoms of plague are thus described by Dr. Gregory:—"A feeling of great languor and lassitude ushers in the attack of plague, which for the most part happens towards evening. There is always a cold stage, though it is seldom of long duration. Heat of skin, headache, and giddiness succeed. The pain of the head is referred to the temples and eyebrows; the eye appears heavy, dull, and muddy. The expression of countenance changes in a remarkable manner. Sometimes there is a wild and furious look; sometimes a look claiming commiseration, with a sunk eye, and contracted features. The most striking of all the early symptoms of plague is the *staggering*, and the sudden extreme prostration of strength. A strong tendency to void the urine is generally noticed. The stomach is very irritable, and rejects almost everything presented to it. The tongue is white and moist. The bowels are sometimes torpid, and at other times loose, the evacuations being always highly offensive. The speech falters. The pulse is at first small, hard, and quick; but after the appearance of buboes it often becomes fuller and softer. It is sometimes intermittent; in point of frequency its average may be stated at 100. The heat of the skin is seldom very intense. The head is occasionally perfectly clear and collected; at other times, stupor occurs immediately after the formation of the hot fit. Some cases of the disease are ushered in by a violent fit of mania; the greatest indifference with regard to recovery prevails, and is always reckoned a most unfavourable symptom.

"After one, two, or at furthest three days pains in the groin and arm-pits announce the formation of *buboes*. Those pains are often highly acute, and unless speedily followed by the swelling of the gland, the patient dies delirious. In women, the arm-pit, in men the groins, are chiefly affected. Carbuncles appear at the same time, but indifferently on all parts of the body. Petechiæ and vibices are much more frequent than carbuncles, which, it appears, do not

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* The writer can strongly recommend the following pill, in cases of obstinate constipation:—

Extract of Nux Vomica—six grains.
Watery Extract of Aloes—twenty-four grains.
Compound Rhubarb Pill, mass—thirty grains.

Mix and divide in twelve pills, Two to be taken every evening at bed-time, if required. Or in certain cases where there is debility with indigestion, take, of Sulphate of Iron, twelve grains; Socotrine Aloes and Galbanum, of each, fifteen grains; Extract of Gentian, eighteen grains. Mix and divide in twelve pills. Two every night.

above once in twenty cases. The
ermination is sometimes preceded by
; hemorrhages from the mouth, nose,
stines.

duration of the disease is very various.
cases are on record where the patient
ithin a few hours from the invasion.
ny it proves fatal during the first
m or period, which includes the time
e evening of the attack to the close
following night. The third and fifth
re, however, upon the whole, those
greatest danger. The former is the
period of the appearance of bubo;
ter, of the abatement of the febrile
ms. If the patient survives the fifth
d the bubo is fully formed, he may be
red as nearly out of danger. The
scence, indeed, is always very tedious,
e extreme debility which the disease
; and the patient's life is not unfre-
again put into imminent hazard from
rrence of gangrene in the extremities.

the malignant form of plague, every
of treatment has been tried, but
little effect, that it may be con-
as a disease nearly beyond the
f medicine. The violent headache
occurs during the first twenty-four
seems to point out the propriety of
tting, and it is recommended by the
custom of Turkish practitioners;
the hands of English surgeons it
of no avail. In the cases in which
ried, it did not appear, however, to
atters worse. Where mercury can
ght to affect the mouth, it appears
some service, but it is seldom that
at time is afforded for this specific
f the remedy. Ether and laudanum
able medicines in allaying the irri-
of the stomach. Wine and opium
no use during the violence of the
, and bark can seldom be retained.
much to be regretted, for wherever
e made to stay on the stomach, even
severe cases where carbuncles and
appear, its good effects are conspi-
Camphor, bark, and wine are given
ach advantage during the period of
scence. Emetics, purgatives, and
d affusion have been tried, but it
t appear that they are of any service.
resis can seldom be produced owing
lisposition to vomit; but wherever
e produced, the symptoms seem to
itigated by it."

latest period of the contagion of
or that between communication
n affected individual and the ap-
e, is extremely short, and liable to
tle variation. It is scarcely ever less than three days, and it seldom exceeds six. Instances indeed are recorded of the disease not appearing until the tenth day, but these cases are rare.

"The contagion spreads to a very small distance only from the body of the patient. The consequence of which is, that the disease is seldom, if ever, communicated, except by actual *contact*.

"The dead body does not communicate the disease so readily as the living. This appears to be well understood in Turkey; but that the contagion is sometimes received from the dead body, cannot be doubted.

"The contagion of plague is readily imparted to *fomites*, in which it may lurk for a very long time, more particularly if excluded from the air."

Refer to—*Fomites*.

PLASTERS—are compounds of adhesive tenacious substances. Many are, principally, compounds of an oxide of lead and oil, others of wax and resin. "Plasters should not adhere to the hand when cold; they should be easily spread when heated; and should remain tenacious and pliant after they are spread; but should not be so soft as to run when heated by the skin. All plasters become too consistent and brittle when long kept; but in this case, those which are unctuous may be re-melted by a gentle heat, and some oil added to them." Plasters are not so commonly used as mere external applications as they were at one time, but amid the poorer classes they are still very favourite and much trusted remedies, and in some cases are unquestionably serviceable.

Plasters may be either simply adhesive, such as the common diachylon or the isinglass plaster; they may be protective, such as the lead; warm, like the cumin, &c.

The most useful plasters are—

Adhesive or Diachylon Plaster.	
Belladonna .	Anodyne.
Cantharides .	Blistering.
Cumin* . .	Warm and stimulant.
Galbanum .	Warm and stimulant.
Isinglass . .	Adhesive.
Lead . . .	Protective.
Mercurial .	Discutient.
Opium . . .	Anodyne.
Roborans or Iron,	Supporting.
Soap . . .	Adhesive.†

Refer to separate articles.

The above plasters may be employed for the purposes indicated, and should always, if possible, be procured ready spread. As a general "strengthening" plaster, the Roborans, or iron plaster, is perhaps the best, and undoubtedly gives much comfort and support in many cases, especially those in which there is much weakness of the back. In such cases it cannot be used in

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ted from the British Pharmacopœia.

ical men are constantly in the habit of ordering combinations of these plasters, as, for instance, Opium
adonna plaster, so useful in heart affection, accompanied by pain or palpitation.

better form than that spread on dimity, which is now sold as prepared by machinery. It may, however, be spread on leather. Either the cumin or galbanum plasters may be used for the same purposes, and be prepared in the same way, but they are more stimulant, and sometimes produce uncomfortable or unbearable irritation on delicate skins; indeed, any plaster will cause this with some people; lead is least liable to do so.

Lead plaster, spread on soft leather or dimity, is one of the best protectives in the tendency to, or formation of bed-sores. If kept long after it is spread, however, it becomes brittle, cracks off, and is useless; it is therefore better kept in roll, and spread when wanted. With exception of the adhesive plasters, however, required in the treatment of wounds, &c., all the others are but occasionally required, and may for the most part be dispensed with. The most useful adhesive plasters are, the common diachylon, and the soap plaster. These may be bought beautifully spread by machinery, and in this country this will always be the most advantageous mode of procuring them, but persons, such as emigrants, proceeding to warmer climates, should never get them thus prepared, otherwise when they come to unfold their plaster for use, they will find it one adherent mass, and perfectly useless; they should take the plaster with them in roll, as it is sold; it can then, when required, be spread on any material, such as calico, or even paper, by means of a heated knife, or flat piece of iron, if no better material is at hand. The common plaster spathula—fig. A—is neither expensive nor cumbersome, and might very well be added to an emigrant's outfit. When used, it should be heated sufficiently to melt the plaster, when the flat surface—fig. A, 1—is applied to the end of the roll; the melted plaster being allowed to drop on the material on which it is to be spread. When sufficient has been melted, it is then to be spread evenly and thinly by means of the edge of the instrument. When spread plasters are warmed for application, the unspread side should always be held to the heat. When plasters are to be removed from the skin, they should always be well warmed through by warm water.

A

It is a common popular error to suppose, that the plasters used in the treatment of wounds exert some healing influence; whereas, they are only used to keep the severed parts in as close apposition as possible, in order that the *natural* healing power may be exerted. It is requisite to notice the error, for it might in some cases interfere with the use of substances, such as gums, &c., as plasters, which might be advantageously used as such.[*]

Refer to—*Blister—Dressing—Wounds, &c.*

PLASTER of PARIS—Sulphate of Lime, Gypsum—has been noticed in various parts of this work as an occasional adulteration in confectionary, &c. It is sometimes used in the treatment of fractures.

PLETHORA—Fulness—is the term applied to that condition of system in which the blood is superabundant, both in quantity and quality, over what the requirements of the body call for. It is a condition not uncommon among the well-fed and indolent, in whom the digestive organs continue in full vigour. Individuals of the sanguine temperament, whilst leading a life of mental activity and anxiety, have greater powers of activity than most others, but they, in many instances, border upon plethora, and if they become so placed that their former activity is either uncalled for or interfered with, provided there is not much mental anxiety, they quickly become plethoric; the vessels are over-loaded with rich blood, and instead of the former power of exertion, oppressive languor and inactivity succeed; in fact, the whole of the functions, and the brain and nervous system especially, are weighed down and clogged; there is mental sluggishness, heavy sleep and inaptitude for exertion. This last symptom is too often mistaken for weakness; the person labouring under the mistake resorts to additional food and stimulants, it need scarcely be added, only to increase the evil. An individual in this condition, it may be said, is ripe for inflammation; if cold be is very likely to light up inflam- tion somewhere, and once lighted ction is very liable to be of the ind.

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[*] It is a very common thing to see sores which might speedily have healed if left to nature, kept open for a long time, by applying common adhesive plaster to their surface, under the impression that it possessed some healing virtue.

febrile disease of any kind, as for small-pox, or erysipelas, or rheu- er, be excited in the constitution, toms run high, and the case is y to become one of danger. For asons, accidents are not well borne their after-effects are often such life in danger.

s who are in a plethoric condition, equently get relieved by some ffort: piles show themselves and the nose bleeds, or spontaneous comes on, and instead of the indi- ing weakened, he feels stronger er than before—a true indication al state of matters. The evil re- istaking a state of oppression from of false debility—see *Debility*— f weakness, must be evident to n the pulse is liable to deceive, ese states of oppression to seem weak, but it is essentially dif- m the pulse of debility. The the finger is pressed even slightly s extinguished at once; but the ppression seems rather to resist ure, to become stronger, and to gainst the finger, rather than to

As might be expected, plethoric ls are often the subjects of apo- A state of plethora must always not of danger, at least of hazard, t to be guarded against; its well uses naturally direct the attention t modes of prevention.

erson suffering from plethora is d with an immediate attack, such xy, the condition cannot be too o actively removed. Bleeding in r, free purging, and low diet are diate remedies; but in the absence eatened attack, it is not advisable the aid of these powerful agents; tion should be reduced gradually ily, by the formation of, and per- in, modes of living suited to coun- tendency. When a man suffering effect of plethora gets rid of his t symptoms by a "coup," such as f a basin-full of blood, by a few ills and black draughts, he is pro- bly pleased to be so easily rid of r, and by means which involve no int, or giving up of indulgences; ng to the repetition of the same measures, he puts no check upon nd when the plethora again reaches height, he again bleeds and purges, and this goes on till he is overtaken some day with an apoplectic attack, or till he becomes the subject of organic disease. It is a false and most precarious security.

Persons who have a tendency to plethora must have exercise, they must use up their blood and muscle in active motion; but in doing this, especially at first, they must beware of overdoing it; it will not do for a plethoric man to commence a new system of *living for health*, with violent exertion, otherwise he may precipitate the very evil he dreads; some overloaded vessel may yield under the increased tension caused by the muscular exertion and excited circulation. Plethora, to be reduced, must be so, steadily, but gradually; active exercise, increased as the ability to take it increases, must be balanced with aliment proportioned to the amount taken, stimulants being rarely if ever permissible, or required, and animal food in very moderate proportion. Early hours, and curtailment of the time devoted to sleep, is desirable. In most cases, tepid bathing is preferable to either hot or cold, and either by it or by sponging, the skin must be kept active. The bowels require especial attention, and are better rather lax than otherwise; any slight tendency to plethoric oppression being counteracted by acting upon them by the compound colocynth, or compound colocynth and blue pill, or by small, largely diluted, doses of Epsom salts, or by Seidlitz powders. If the kidneys are inactive, the infusion of broom, or of dandelion, carbonate of potash, or the nitrate of potash—saltpetre—may be taken, or the super-tartrate of potash—cream of tartar—used in the form of imperial, as a common drink.

Refer to—*Apoplexy—Debility—Fat, &c.*

PLEASURE.—The cheerful excitement of the mind, by what is called pleasure, is rather a preservative of health than a remedy in real sickness, when the less stimulant but cheering tonic of hope is the better adapted mental remedy. Pleasurable relaxation there must be, both for mind and body, and especially for the young; and they act unwisely, who, instead of directing the mind to sources of, and leading it to find its happiness in innocent, cheerful, well directed relaxation and pleasure, would make this world one never-closing workshop, or have it a perpetual valley of tears.

Refer to—*Dancing.*

PLEURA.—The "serous" membrane which lines the chest and covers the lungs. —See *Lungs.*

PLEURISY.—Inflammation of the pleura. See *Lungs.*

PLICA, or **PLICA POLONICA.**—A peculiar disease of the hair which occurs in Poland and the adjacent countries.—See *Hair*.

PLUMMER'S PILL—also called compound calomel pill, is one of the most useful alterative, and gently diaphoretic pills or remedies in general use; it rarely acts on the bowels, and may be taken for a considerable time without affecting the system. Plummer's pill also contains a preparation of antimony. The dose is from three to ten grains.

Refer to—*Mercury—Pill, &c.*

PNEUMONIA.—Inflammation of the substance of the lungs.—See *Lungs*.

***POISON.**—Considerable difficulty has been experienced in giving such a definition of the word poison as shall, whilst sufficiently inclusive, be sufficiently precise. Some substances, such as strychnine, corrosive sublimate, &c., &c., can never be considered otherwise than as poisons, in every sense of the word, but when cayenne or common pepper, cream of tartar, even common salt, and other substances not unusually used in food, have been found in large doses to act as poisons, it becomes very difficult to frame a correct definition of the term. Mr. Taylor, in his *Manual of Jurisprudence*, says: "Perhaps the most comprehensive definition which can be suggested is this, "a poison is a substance which, when taken internally, is capable of destroying life without acting mechanically on the system." Some substances, however, act as poisons through the skin, such as those of infectious diseases, others, probably, through the lungs. Poisons are usually classed under the three heads of irritant, narcotic, and narcotic acrid poisons. Of the first, arsenic and the mineral acids are examples; of the second, opium and henbane; of the third, alcohol and strychnine. As the treatment to be immediately adopted in cases of poisoning by various substances, is given sufficiently when these substances are treated of, it is unnecessary to repeat it here.

As a general rule, it may be acted upon in cases of poisoning, that the sooner the ejection of the poisonous agent from the stomach can be procured the better. In the majority of instances, perhaps, nature effects this in a more or less perfect manner before any remedy can be employed; indeed the occurrence of vomiting is often the first symptom of the action of the poison.

These natural efforts, however, must not be alone trusted to, even if they take place, and, in almost every case, the best thing that can be done, is to excite full free vomiting. This may be brought about by any of the emetic substances so often mentioned, but sulphate of zinc, or white vitriol. *when it can be procured*, is the agent generally preferred for the purpose. In its absence, salt or mustard may be used, and are almost always procurable; indeed any other emetic at hand should be resorted to,—an infusion of the root of the sweet violet, in the absence of others, or chamomile tea, or warm water in abundance; the action of vomiting being also excited by irritating the throat with the finger, or with a feather.

Next to the evacuation of the poisonous substance, its neutralization is important; indeed, in the case of such poisons as the mineral acids, it is to be the first object. It is unnecessary to repeat here the proper remedies which more especially neutralise the effects of different poisons, as they are given in their proper places, but as a general rule, milk, oleaginous substances, and demulcent fluids, such as linseed-tea or barley-water, or hasty pudding, will be useful, if given freely, in protecting the coats of the stomach from the contact of the poison, and by interfering with the absorption of the latter into the system.

Lastly, it must be an object to counteract the effects of the poison upon the system at large; as in the case of opium, the narcotic influence is combatted with forced exertion, coffee, &c., or in poisoning by prussic acid by stimulants and cold affusion.

When poisoning is known or suspected to have occurred, the first thing is to procure proper medical assistance as quickly as possible; *nothing must stand in the way of that*: the next is, to ascertain the nature of the poison, if possible, and the amount taken, the remedial measures which may be known, either by reference to such works as the present, or from other sources of information, being adopted as quickly as may be. All vomited, and other matters—such as evacuations from the bowels—which may contain trace of, or afford clue to the poison, must be reserved for the inspection of the medical man. Sometimes, individuals, from throwing away, in the excitement of the moment, the poisoned food, or whatever it may be, have found themselves unpleasantly situated, and objects of suspicion. If there is any idea that there has been criminal proceeding connected with the poisoning, some responsible person should secure whatever may guide in the investigation of the truth, and place all under lock and key, and *seal*, till the arrival of the authorities; food and vomited matters should be sealed in suitable vessels.

The symptoms which would give rise to the suspicion of poisoning having taken place, are those of sudden illness shortly after taking food or medicine, the individual having previously been in good health, or at least free from the peculiar, and generally violent, symptoms developed, particularly those indicative of irritation of the stomach and bowels, or of narcotic or irritant influence upon the nervous system. When poisons are either given or taken for criminal purposes, the symptoms usually show themselves quickly and severely, on account of the dose of the deleterious substance being generally large. At the same time it is to be remarked, that the presence of much food on the stomach, sleep, and intoxication, have all been known to retard the development of symptoms from even large doses of poison. If a number of persons who have partaken of the same dish, are seized shortly after with symptoms of illness, the suspicion of poison is, of course, greatly strengthened.

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* For an account of the new medicine called Podophylline—see Appendix.

It is perhaps necessary, however, to caution all, against a too hasty assumption of the fact of poisoning, at least as far as the criminal implication of others is concerned; if there is suspicion, it will in any case be better to take such measures as may be thought requisite, as quietly as possible, until the bearings of the case have been examined by competent persons.*

This caution is necessary, for there are diseases, such as British cholera, which not unfrequently first break out shortly after a meal, and spasms of the stomach are not uncommon with some after food; perhaps the disease which has most frequently given rise to suspicion of poisoning—doubtless on account of its all but universal fatality—is "perforation," alluded to a few pages back.

In connection with the above remarks, the following from Taylor's *Medical Jurisprudence*, is important: "It seems highly probable, that the mere fact of a person eating a full meal after *long* fasting, will give rise to symptoms resembling those of irritant poisoning." "Mr. Holland, of Manchester, has communicated two cases of this description. In one, the symptoms were very violent and the patient nearly died, in fact was laid out for dead: the other patient suffered from severe gastralgia —nervous pain in the stomach—for several weeks. Poisoning was at first strongly suspected, but the suspicion was removed by the fact, that others in health had partaken of the same food, principally potatos mixed with gravy, without any injury, and there was no reason to suppose that any irritant poison could have been mixed with the food. The two who suffered, were extremely weak and exhausted from long fasting, and were observed to eat their food, which was quite wholesome, voraciously." Further, it must be remembered, that although symptoms of poisoning may be distinctly traceable to the effects of a meal recently eaten; it by no means follows, that the poisoning has been the consequence of something added, either intentionally or accidentally, to the food; it may be the consequence of changes which have taken place in the food itself; many casualties from this cause are recorded. In Germany, numerous deaths have occurred, in consequence of sausages prepared in that part of Europe undergoing a peculiar kind of putrefactive fermentation, which renders them highly deleterious. In this country, the flesh of animals which have died from disease has not unfrequently been known to give rise to symptoms of poisoning. Fat or oily food, when in a state of decay, seems peculiarly injurious; salmon, bacon, &c., having in this state been found poisonous. At a festival held in the Canton of Zurich some years ago, at which about 600 persons were present, nearly two-thirds of the number were affected with symptoms of poisoning, in consequence of partaking of meat which had become slightly tainted, and of hams—probably the injurious article—which had been badly cured;—some of the number affected died. Shell-fish, it is well known, will, in some persons, produce symptoms of poisoning at any time, and in certain states are probably deleterious for all.—See *Mussel—Oyster—Copper, &c.* A recently-noticed source of poisoning requires mention. It is that which might ensue from the flesh of game birds—partridges especially—which have been destroyed by feeding on grain steeped in arsenic and scattered about for the purpose of destroying other birds. It is said that partridges thus destroyed are not found lying on their sides like dead birds generally, but are found sitting as if in life. It is to be feared, that birds found thus, fresh, and in good condition, might, by unscrupulous or ignorant persons, be sold as other game.

It has been mentioned, that the common garden rhubarb contains oxalic acid,—not in sufficient quantity to injure in the moderate use; but when used largely, especially in some constitutions, it may give rise to unpleasant symptoms connected with the kidneys.

Liebig records a singular mode of fatal poisoning, which occurs in Germany "from the drinking of what is called the feather-white wine." This poisonous wine, is wine still in a state of fermentation, which is increased by the heat of the stomach. The carbonic acid gas which is disengaged penetrates through the coats of the stomach, through the diaphragm, and through all the intervening membranes, into the air cells of the lungs, out of which it displaces the atmospheric air. The patient dies with all the symptoms of suffocation caused by an irrespirable gas. The best antidote in this form of poisoning, is the inhalation of ammonia. The development or formation of poison within the body itself, is a subject which has been but little investigated. The characteristic ingredient of the urine, urea, if retained in the circulation, acts as a narcotic poison. Oxalic acid is certainly formed within the body; perhaps prussic acid. When the fæcal contents of the alimentary canal, especially of the large bowel, are long retained, and re-absorbed into the circulation, as they undoubtedly are, they exert effects somewhat akin to poisoning, and the author believes he has traced extreme temporary depression, of the system to this cause alone.

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* It is of course possible to imitate, or attempt to imitate the slow progress of natural disease by the repeated and continued administration of small doses of some poisonous drugs, but it has been happily proved, as in the recent notorious Pritchard case, that this cannot be done without detection.

In connection with poisons, the fact—more than once alluded to in this work—must not be lost sight of, that it is possible for the long-continued daily reception of even minute doses of certain poisonous substances, at last, by "accumulation," to exert pernicious effects upon the system.—See *Mercury—Lead, &c.* This must not be confounded with the criminal, secret, slow poisoning, so often recorded as the practice in ages gone by, a crime which it is more than doubtful could be practised in the present day without certain detection.

Before leaving the subject of poisoning, it is requisite to advert to the influence which habit exerts over the effects exercised by poisons on the human subject. All know how largely the habitual consumers of opium can increase their doses, and that the same is observed with respect to other drugs, chiefly of the narcotics; but the most remarkable instance of this power of habit, is in the case of the "arsenic eaters" of Styria, and adjacent provinces, of whom it is an ascertained fact, that they habitually consume large and poisonous doses of solid arsenic, not only without injury, but with, it is alleged, apparent benefit to health.—See *Wounds Poisoned*, and the various articles on poisonous agents.*

POLYPUS—is a tumour, the result of the morbidly excessive growth of the mucous membrane lining a cavity. It is most frequently met with in the nose and in the womb, but also occurs in the ear, &c.† Polypi vary much in texture, in some cases being easily torn, and bleeding after the least injury, at others being firm and almost cartilaginous; their colour is usually grey or yellowish, and they possess but little sensibility; they are generally attached to the surface whence they spring by a narrow neck. The chief inconvenience which results from polypus in the nose, is the interruption to breathing through the nostril, at night especially; the affected person can only lie with the mouth open, which therefore becomes most uncomfortably parched. When polypus, however, in this situation, increases to a large size, it necessarily displaces the adjacent parts, such as the soft palate, or distends the nostrils. In any case, polypus is so uncomfortable a companion, that its removal is generally sought. This must, in all cases, be effected by the surgeon, by means of ligatures, scissors, or forceps and, therefore, proper surgical advice should be resorted to. Occasionally, polypus in the nose will yield to the persevering use of astringent powders, such as that of burnt alum, or it may be regularly touched twice a day with tincture of steel, by means of a camel-hair brush. Polypus of the womb cannot possibly fall under the cognizance of unprofessional persons.

POMEGRANATE. — This anciently known tree—a native of Asia and Africa, [illegible] is cultivated in warm countries generally. The flowers, the rind of the fruit, and the bark of the root, have been used in medicine as astringents, but the most general remedial use in modern medicine, has been that of the root bark, as a remedy in tapeworm; for this purpose it is extensively used in India. Dr. Christian says, "it seems scarcely ever to fail if properly used." "The original mode of administering it is to steep two ounces of the *fresh* bark in two pints of water for twelve hours, then to boil the whole down to one pint, and to give a wine-glassful of the strained decoction every two hours till the whole is taken." "Sometimes, joints of the worm begin to come away in less than an hour after the last dose; but often the doses must be repeated several successive mornings before they take effect; and it is right to repeat them occasionally for four or five days after joints have ceased to come away. Laxatives should be administered from time to time. The remedy sometimes causes nausea and vomiting. The fresh root is most efficacious. It is probable that the recent introduction of the kousso, and the greater attention directed to the employment of the root of the male fern, as remedies in tapeworm, may supersede the use of the pomegranate root in this country; but in many situations the latter drug might be procured where neither of the former could. When given in powder, the dose of pomegranate root is twenty grains.

POOR.—Whilst poverty is so great a

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* For an account of the wholesale poisonings that have taken place, especially in Germany, from Trichinæ —see Appendix.

† The use of the new instrument called the Laryngoscope, has shown that Polypus occurs much more frequently in the Larynx than was formerly supposed, giving rise to affections of the voice; difficulty of breathing, resembling Asthma, and other symptoms. Laryngeal Polypus is capable of removal by skilled hands.

ggravation of the evils of sickness, it is, nfortunately, too often one of its most eneral causes. It is a perfectly well ascerined fact, that physical deprivation and ysical disease are to one another as cause d effect, and, however sad the reflection, at the insufficiently fed and clothed, and rd-worked labourer, has much less chance prolonged health and life than those more rtunately placed. The following extracts m Dr. Combe's "Physiology of Digesn," put this in a strong light: "If overding be the prevailing error among the ddle and higher classes of the commuty, the opposite condition is as unquesnably that of a large proportion of the bouring poor. Pressed upon all sides by e powerful competition both of constantly proving machinery, and of a superabunnt population, the manual labourer is pelled to undergo an amount of evercurring bodily exertion, which far exceeds e natural powers of his constitution, even hen supported by the fullest supply of ourishment; and when, as often happens, long with this excess of labour, his food, rom inadequate wages, the size of his mily, or his own injudicious management, s defective in quantity or in quality, the onsequences to his health and happiness re disastrous in the highest degree.

"To those who have never reflected on the ubject, it may seem like exaggeration to ay, that, as a general fact, at least nineenths of the lower orders suffer physically, orally, and intellectually, from being overworked and underfed; and yet I am coninced, that the more the subject shall be vestigated, the more deeply shall we beome impressed with the truth and importnce of the statement. It is true that very w persons die from actual want of food; ut it is not less certain, that thousands pon thousands are annually cut off, whose ves have been greatly shortened by excess f labour and deficiency of nourishment. It a rare thing for a hard-working artizan to rive at a good old age. They almost all come prematurely old, and die off long fore the natural term of life. It is in this ay that, as remarked by Dr. Southwood mith, the mortality of a country may be nsidered as an accurate indication of the isery of its inhabitants. According to illermé, the rate of mortality among the or is sometimes double that among the ch. Thus it is found, he says, that in a or district in France, one hundred die, hile in a rich department only fifty are rried off; and that, on taking into account e whole population of France, a child born parents in easy circumstances has the chance of living forty-two and a half years, while one born of poor parents can look for no more than thirty.

"These are striking facts, and their truth is confirmed by every day's experience in Britain as well as in France. Many causes concur to produce this melancholy result, but among the principal is, unquestionably, the disproportion so generally existing between toil and nutrition. In the army, the operation of the same principle has long been recognised, in the inferior strength and health of the privates compared with the officers. The officers being better fed, better clothed, and better lodged than the common soldiers, bear up successfully against fatigue and temporary privations, by which the latter are overwhelmed. During epidemics, too, the poor, from their impaired stamina, almost invariably become victims in a proportion far exceeding that of the more wealthy classes. This is, no doubt, partly owing to their greater intemperance and want of cleanliness; but even these vices often derive their origin from the same root —the want of adequate repose and comfortable sustenance.

"The bad consequences of defective nourishment are not confined in their operation to the bodily constitution of the labouring poor. *Their minds also are deteriorated.* The pressure of poverty is unfavourable to the growth of refinement and morality, and crime and turbulence are never so much to be dreaded as during times of scarcity, and manufacturing or agricultural distress.

"Among the poorer classes, the children as well as the parents suffer both physically and morally from insufficient food. Their diet, being chiefly of a vegetable nature, and consisting of porridge, potatos, and soups, with very little butcher meat, proves far from adequate to carry on vigorous growth in the one, or repair waste in the other; hence arise in the young an imperfect development of the bodily organisation, a corresponding deficiency of mental power, and a diminished capability of resisting the causes of disease. In workhouses, and other charitable institutions, ample evidence of these deficiencies obtrudes itself upon our notice, in the weak and stunted forms and very moderate capacities of the children."

Happily, the recent changes with respect to the importation of food, have modified in some degree the force of the above observations, but they still hold good in too many instances. The fact of the connexion between deficient nourishment, clothing, &c., and the production of disease, ought ever to be kept in mind by those who have the management of their inferiors in intellect, or in worldly means.

Many of the evils attendant on poverty are, unquestionably, out of the power of the poor themselves to rectify, but many others, connected with the subjects of ventilation, cleanliness, &c. &c., which do so much to ward off the incursions of disease, are in most instances in their own hands.

Those who are taken, either by the calls of duty, or by the dictates of benevolence, to visit the poor in sickness, have many prejudices, theoretical and practical, to encounter. It is marvellous, the dread of fresh air or of "cold water," the faith in quack nostrums and old women's receipts, the constant anxiety that food should be taken and stimulants administered, and the perverse disobedience of the directions of a medical attendant. All these, and many others which are met with, ought to be special objects for good advice, for kind and rational explanation. The more leisurely visits of a clergyman, or of others, who visit the poor, may well be in part devoted to instruction on these points, if the power of imparting the information is possessed, as it ought to be, by every educated person.

Refer to—*Bed-room—Drainage—Houses—Water, &c.*

POPLITEAL SPACE.—The hollow of the ham behind the knee.

POPPY,—*Papaver Somniferum*, or opium poppy—is the common cultivated poppy of the gardens, of various hues, varying from red or purple to white. Its principal produce, opium, has already been treated of. The capsules or seed-vessels of the poppy, when dried, are used for their narcotic properties, owing to the opium which they contain. In order to have the dried capsule in the most efficient state, that is, containing the largest amount of opium; it should be cut green before it is fully ripe. When the seeds have been matured, the seed-vessel is much exhausted. Poppy capsules are principally used in the form of decoction for purposes of fomentation. To make the decoction, rather more than an ounce of the capsules, *well broken up*, is to be added to each pint of water, and the whole boiled for a quarter of an hour. This preparation often proves soothing and relieves pain.

Syrup of poppy is made from the poppy capsule, but is a preparation which should be absolutely abandoned as dangerous. There is always considerable variation in the amount of opium contained in the capsules, and this variation is necessarily entailed upon the syrup prepared from them, a most dangerous contingency in a preparation of opium,—for such it is,—the
use of which is in a great measure confin
to children: half a tea-spoonful has prov
fatal to a child six months old, and y
larger doses are often given. The calculati
of the proper strength of syrup of poppies,
about one grain of opium to the ounce.
an opiate syrup is to be employed, it oug
to be made with as definite proportions
any other preparation of the drug.

Although the poppy seed vessel possess
such powerful narcotic properties, it is r
markable that the seeds are entirely fr
from them, and are mild and pleasant
flavour. They contain a fixed oil, and
some parts of Asia are converted into bre
or cakes.

Refer to—*Opium*.

PORRIGO.—A disease of the scalp.-
See *Skin—Scalp*.

PORK.—The flesh of the hog is general
and justly considered the most indigestib
animal food in common use. In Dr. Bea
mont's table, showing the average tin
required for the digestion of different articl
of food, pork, fat and lean together, is show
to require above five hours for digestio
There is no doubt that much of the ind
gestibility of pork is due, not only to tl
fat, ostensibly existing as such, but to tl
large amount of fatty matter mixed wi
the muscular fibres; at the same tim
pork more than other meat seems to exe
marked injurious effects. In some fe
cases, even symptoms of poisoning have fc
lowed the use of pork as food, but, in thes
there probably must have existed son
peculiar "idiosyncracy," or the meat mu
have been diseased. It is by no means u
frequent, however, for severe diarrhœa
be the result of a pork diet, continued f
two or three days in succession. This oft
occurs in the families of the poor, after tl
pig has been killed.*

Refer to—*Bacon*.

PORTER,—the well-known beverag
is brewed from malt very highly drie
Dr. Paris says, "Much has been said up
the fraudulent adulteration of this articl
but we are inclined to believe the
statements have been exaggerated." M
Donovan, however, affirms that, until tl
interference of the legislature, porter w
liable to every species of adulteration.
the *Medical Circular*, for June 30th, 185
the following observations occur in conne
tion with this subject. "If we are to belie
the assertions of previous writers, support
by the evidence adduced in connection wi
numerous excise prosecutions, during tl
last few years, the adulteration of ma
liquors has been practised to a very co
siderable extent, both by the brewers an

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* In connection with the subject of diseased pork, now so important to the public, the reader is referred t
the Appendix, article—Trichinæ.

the publicans. The following is a summary, exhibiting a list of the substances said to have been thus employed, together with the effects they are intended to produce:—

Quassia, gentian, wormwood, broom-tops, nux vomica, and strychnine, *to impart bitterness*, in lieu of hops; capsicums and grains of paradise (in concentrated tinctures), ginger, corianders, orange-peel, and caraway seeds, to give *pungency* and *flavour;* opium, cocculus Indicus, nux vomica, tobacco, extract of poppies, and the tincture and juice of henbane, to communicate *intoxicating properties* or "*strength;*" molasses, colouring, sugar, burnt sugar, and corianders, as *substitutes for malt;* sulphuric acid (oil of vitriol), alum, green vitriol, and common salt, to impart *an appearance of age;* and "foots," pearl-ash, Scotch soda, and some of the articles before named as "*heading,*" or to give the beer the *property of bearing its* "*head,*" or "*froth.*"

The following list of articles, said to have been seized at different breweries and brewers' druggists' laboratories, is copied from the "Votes and proceedings of the House of Commons," published some years since. In many cases heavy penalties were inflicted on the offending parties:—"Cocculus Indicus, multum (an extract of cocculus), colouring, honey, hartshorn shavings, Spanish juice, orange powder, ginger, grains of paradise, quassia, liquorice (root), caraway seeds, copperas, capsicums, and mixed drugs, (various)."

Some of the articles in the above lists are virulent poisons. Such are opium, nux vomica, henbane, tobacco, cocculus Indicus, and extract of poppies. We have reasons for stating, that the three latter are those only which we may suspect meeting with in beer at the present day. The use of cocculus Indicus has been recommended by several writers on brewing. One of these conscientious gentlemen (?) states, that "it is impossible with pure malt and hops alone, to produce a *strong-bodied porter*, and then directs the employment of cocculus Indicus, grains of paradise, and nux vomica for that purpose." Another author, equally base and ignorant, orders "3lbs. of cocculus to be used for every ten quarters of malt;" and adds, "it gives an inebriating quality which passes for strength of liquor; it prevents second fermentation, and consequently, the bursting of the bottles in warm climates." The latter assertions are utterly unfounded, and are mere excuses for adulteration. Another author informs his readers, that "6 lbs. of roast sugar and 1 lb. of corianders, are equal in strength and intoxicating qualities, to a bushel of malt." In a work published about six years since, it is stated, that "cocculus Indicus is commonly smuggled out of the hands of the druggist into those of the brewer, in common soda barrels, with three or four inches of Scotch soda at the top and bottom of each;" and also, that "it forms the principal ingredient in B. E., or black extract, which is ostensibly prepared for tanners, but its real destination is the beer cask."

Mr. Taylor, in his *Manual of Jurisprudence*, says, "According to Dr. Ure, the best London porter always contains opium," but adds, "in repeating Dr. Ure's experiments, I have not obtained any results indicative of the presence of opium in this liquid."

Of course, the fact that fraud and adulteration may render such an article of human consumption, as porter, most deleterious, does not in any way afford an argument against its use when properly and truly manufactured, and there are few medical men who will not testify to the highly beneficial effects which follow the use of good porter, in many cases; it is, in fact, a most admirable tonic, superior to any other form of malt liquor, and especially so, because it is less likely to disagree and to become acid on the stomach than the other varieties of malt beverage; neither is it so likely to give rise to gravelly deposits in the urine in the predisposed. Dr. Prout recommends the use of porter in diabetes, not only for its tonic properties, but as less likely to prove injurious in many cases of that disease than any other drink.

In convalescence from acute disease, porter is a strengthening medium, most grateful to the patient. In order to prove of service, porter must not be flat; it is, therefore, better for invalids, at least, to drink it bottled.

PORT WINE—belongs to the class of "dry and strong" wines, being put down in Brande's tables, as containing an average of 22·96 per cent. of alcohol. The colour of port is due to the colouring matter of the grape husk, which is pressed out in the preparation, along with a considerable amount of astringency and extractive matter, from which the white wines are free. The large per centage of spirit contained in port wine, is, of course, not all the result of the natural fermentation, but is added on account of the depraved taste, which has rendered it necessary for foreigners to add spirit to the genuine wine, to render it marketable in Britain; spirit, too, which for the most part must remain in the wine in an uncombined condition. Probably, no wine imported into this country, or in many cases professed to be imported, is liable to the same extent of adulteration as port wine, an immense amount of deleterious stuff being sold under the name, especially when retailed in small quantities, or direct from the wood. In such cases the poor often suffer; probably, after illness, they may be able, or enabled to purchase, it may be one, or perhaps a couple of bottles of port; the liquid being frequently drawn from the cask and put into their own bottles, it need scarcely be added, that it is often worse than nothing. There are few, medical men at least, who will decry the virtues of port wine, as a remedy, either in some stages of acute illness, or in most convalescences, but if it is to be of any service it must be genuine; those, therefore, who charitably interest themselves in the wants of their poorer brethren, should keep this in mind, and, if inclined to aid with the often most welcome gift of a little wine, send it from their own cellar, instead of giving money for its purchase.* Good port wine is often one of the most valuable remedial agents in the hand of the physician: in the low stages of low fever, in diseases of debility generally, and in convalescence from most of the exhausting diseases. Gargling with port wine in relaxed sore throat is a good, but perhaps somewhat unnecessarily expensive remedy.

POSITION.—The position, either of the whole body, or of the affected part, in those suffering under illness, or from the effects of accident, is one of the most important considerations connected with treatment; it is, moreover, one frequently overlooked, particularly by unprofessional persons. Although the structural arrangements, and vital activities of the living body, counterbalance the influence of gravity under ordinary circumstances; the latter force is apt, more or less, to exert its power, when weakness and long constraint in one posture, diminish the powers of its counteragents. It is undoubted, that the muscular movements which are continually going on with most persons in health, tend greatly to assist in regulating and equalizing the distribution of the blood and other fluids; even in the healthy, the temporary want of this assisting power is shown in the liability of the feet or legs to become slightly swollen, in consequence of long sitting or standing in one posture.

In regulating position, it has for the most part to be done, either with reference to the relaxation of the muscles, to facilitate the flow of the blood or other fluids within the body, or to obviate pressure on any portion of the body.

The regulation of position, with reference to the relaxation of certain muscles, or sets of muscles, is most generally required aft fractures; and the principles on which th relaxation is to be adopted, have been suf ciently alluded to under the article—*Fra tures*—itself. This muscular relaxation ma also be an object in the treatment of wound which run transverse to the fibres of th muscle directly underneath, such as tran verse wounds of the thigh.—See *Wounds*.

The regulation of position with referenc to the flow of the blood or other fluids, often of immense importance, and too ofte neglected. The blood may have a tendenc to gravitate towards the most depende parts of the body, either from general from local causes.

In some diseases accompanied with gre exhaustion, and, indeed, in many age people, independent of disease, it woul appear as if the forces which circula the blood lost the power of counteractin the force of gravity, even in the horizont posture, consequently, the blood is a to accumulate in the most depende parts. In the lungs especially, this is th case, and there is every reason to believ that congestion or accumulation of blood i these organs in the first place, giving rise t a kind of inflammation in the second, ma be the consequence of long continuance i one position, as on the back. In such case care ought to be taken, when practicabl to change the position. Stagnation or co gestion of blood occurs in the majority instances, from some obstruction to the ci culation, either at its centre the heart, o in consequence of mechanical impedimen acting upon the veins of the part or part involved, such as happens from the pressur of tumours, or of the pregnant womb, upo the large veins of the abdomen, &c.

Again, at all times, in the healthy body when in the erect posture, there is the forc of gravity to be overcome in the return o the blood from the parts lower than th heart to the heart, and for this special pro vision is made, most remarkably in th numerous valves with which the veins of th lower extremities are provided; any de ficiency in these valves—see *Veins*—favour the gravitation of blood. In all the above named instances, position is of the ver highest importance, not only as regards th comfort of the patient, and the treatmen of the disease, but sometimes as a matter o safety.—See *Veins*.

Whilst position is to be considered and taken advantage of, as a means of facilitating the flow of blood through the veins, it is als a useful auxiliary in regulating its passage through the arteries, for it makes a very considerable difference, whether the propulsion of the blood by the heart and arteries, is exerted against the force of gravity, or not. This is well shown, when there exists from any cause a tendency to fainting. This condition, as pointed out in the article on the subject, depends upon diminished circulation of blood through the brain; it must, therefore, be evident to all, that in the erect posture, when the blood has to be driven *upwards* to the head, against the force of gravity, a much greater exertion of power is required, than if it had merely to be sent in a horizontal direction, as it is when an individual is lying down, and, consequently, that in fainting, in which the action of the heart is much enfeebled, the usual treatment of laying a person *almost* flat is the most rational plan which can be adopted; it, moreover, illustrates well the influence of position. In a tendency to apoplexy, or to overfulness about the head, on the other hand, it is a matter of safety that all positions, such as stooping when awake, or sleeping with the head low, which favour the arterial flow to, or impede the venous flow from the head, are to be avoided. On precisely similar grounds as the above, position is highly important in wounds involving severance of vessels. It must be evident to all, that in the case of an artery being wounded, the most rational mode of preventing—which it will do entirely sometimes—or at least of impeding the effusion of blood, must be to place the wounded part in such a position, that the force of gravity must act as strongly as possible against the force of the circulation; in other words, that if an artery of the hand is wounded, less blood will be lost by holding the hand and arm straight upwards, than in any other position,—see *Artery*—and further, that the very same principles in reverse must apply in the case of the veins. It might also seem, as if common sense alone would be sufficient to teach persons generally such simple facts, but it is not so. It is not very long since a woman nearly lost her life in London, in consequence of the giving way of one of the veins of the leg, from ulceration,—she almost bled to death, because not one of those around had knowledge sufficient to lay her flat down, and to elevate the bleeding leg above the level of the rest of the body. Her life was saved in consequence of the fortunate arrival of Mr. Wakley, to an inquest, who, of course, at once obviated what might have been a fatal contingency, the result of ignorance. The regulation of position, with reference to the escape of fluids, such as matter from any part of the body, requires attention: surgeons generally take care that it is properly seen to, but it might escape the notice of unprofessional persons. As a general rule, parts should always be placed so that any discharge from them may have as free escape as possible. It is this fact, in cases of abscess, which often makes the artificial opening of the surgeon preferable to the natural one of the disease; he chooses the point for his incision where the matter can have the readiest escape; that is, the lowest portion of the abscess, in the natural and unconstrained position of the portion of the body in which it is situated.

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* There has recently been introduced a wine called "Spanish Port," said to be made in the north of Spain, which there is every reason to believe it genuine. It is used in many hospitals, and is useful as a wine in sickness. Its moderate price admits, of course, of a much freer distribution than could be made of high flavoured, expensive Port.

Position, with reference to pressure upon different parts of the body, particularly in persons long confined to bed, requires much attention; it has been already alluded to under articles *Bed*, *Bed Sores*, &c.

There are many other points connected with the important subject of position* but the foregoing remarks—directed rather to principles than to details—will probably serve to attract a little more attention than is often given to considerations so closely linked, not only with comfort, but with the safety and well-being of the sick and infirm.

POSSET.—An old form of domestic preparation for the sick, made with milk curdled by means of treacle, beer, &c.

POTASH, or Potassa, or Potashes, or Vegetable Alkali,—one of the fixed alkalies and a compound of the metal potassium with oxygen, is very widely distributed throughout nature; in the soil, in vegetable and animal bodies, it is an almost constant ingredient.

Many preparations of potash are used in medicine; the most generally useful are—

Potash, in its pure form of caustic potash, especially in its solution the liquor potassæ;

Bicarbonate, or supercarbonate of potash;

Acetate of potash;

Bitartrate, or supertartrate of potash, or cream of tartar;

Chlorate of potash;

Nitrate of potash;

Hydriodate or iodide of potash;

Tartrate of potash with soda, or Rochelle salt.

Potash derives its name from its source and mode of manufacture. It is procured by "lixiviating," that is, mixing and steeping vegetable ashes in water, and evaporating the solution or "ley" which results. From this solution, potash in the form of a carbonate is obtained, but the process being very roughly carried out, yields, of course, a very impure material, the "pot-ashes" of commerce, which are brought chiefly from Russia and North America. The rough potash is purified in various ways, either in the country of its manufacture, or after importation. When imported in a purified state it is sold as "pearl-ash," and after purification in this country, as purified pearl-ash, or carbonate of potash. This must not be confounded with bicarbonate or supercarbonate of potash, which is the more generally used medicinal preparation. There is great variation in the amount of carbonate of potash obtained from various vegetables, but weeds yield it most abundantly, after burning. For example, whilst oak-wood yields but 1·53, and beech-wood 1·45, in every thousand parts, the fern yields 6·26, thistles 35·7, wormwood 73·0, and the common fumitory 79·0, in every thousand. Pure carbonate of potash is sold in the form of a white, granular salt, which is very deliquescent; that is, becomes moist or partly dissolved, in consequence of attracting moisture from the atmosphere.

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* The position, or in medical language the decubitus of disease is of great interest to the Physician, as in fact the posture assumed by the patient in certain affections is often quite characteristic, and speaks a plain and intelligible language to the medical attendant. Thus, for instance, a patient suffering from abdominal disease with pain, lies on his back *with the legs drawn up*. One with heart disease, and difficulty of breathing, sits up in bed, and refuses to lie down. One with water in the chest lies on the affected side, to give the sound side room to move freely, and *cannot* perhaps lie on the sound side. A patient with rheumatic fever lies on his back utterly helpless and immovable, &c., &c.

Bicarbonate of potash occurs in crystals, but is more generally sold in the form of a white powder. It is, whilst applicable to the same purposes, a much milder preparation than the carbonate.

The solution of pure potash, or "liquor potassae," is very similar in its medicinal action to the above preparations; in its undiluted condition it is caustic, and acts as an irritant poison.

All the above preparations of potash are antacid, diuretic, and cooling; the simple carbonate, however, is but little used as a medicinal agent. The bicarbonate, in doses of from ten to twenty grains, dissolved in a couple of ounces of water, may be given when its antacid action is required; for diuretic purposes, the doses must be at least double the above. The dose of the "liquor potassae," or potass solution, is from ten to twenty drops, diluted in the same way. The bicarbonate of potash is often used along with an acid in forming effervescing draughts, in febrile diseases; for the amount of acid requisite, see article *Effervescing*. In some disorders of the liver, and where there is a tendency to the formation of red gravel in the urine, potash, especially the liquor potassae, is one of our most useful remedies. A very good combination, is fifteen drops of the solution in a tea-spoonful of dandelion tea: this may be taken at least twice a-day. A very good preparation of potash, "Brandreth's Solution," is used by some in preference to the common potash solution. It is requisite, that those who, regularly, or for any length of time, take these preparations of potash on account of red gravel, or other diseases, should be on their guard, lest too continued a use of the remedy may induce other disorders, as bad, or probably worse than the existing one. The author could, in one case, trace a sudden break up of the nervous system, with alkaline and phosphatic urine, to no other cause than the long and incautious use of potash, to obviate a tendency to red gravel. As mentioned under article *Fat*, the use of potash solution tends to diminish that constituent of the body. Potash is preferable to soda, as an antacid, in gout, from its forming a more soluble compound with the peculiar acid of that disease.—See *Gout*.

Poisoning by potash solution has sometimes occurred; in this case, diluted acids, milk, demulcent drinks, or oil, will be the best remedies. The acetate of potash, a compound of acetic acid and potash, is chiefly used as a diuretic, and as a remedy in skin diseases,—the dose from thirty grains to sixty, well diluted in water: it may act upon the bowels.

Chlorate of potash is generally sold in the form of flat, white crystals; it is cooling, and a good saline remedy in inflammatory fever; it is most valuable, however, as a remedy in thrush or "aptha,"—see *Aptha*—and in cases of sore mouth generally,—the dose five to fifteen grains, dissolved in water, for an adult.

Bitartrate of potash, or cream of tartar, is a compound of potash with tartaric acid. In its impure state, in which it forms a grey or brown concretion, it is known by the name of argol or winestone, and is formed inside the casks in which new wine is kept. The coloured, impure, crude tartar is purified, dissolved, and the solution gradually evaporated; in this process crusts form on the surface of the solution, which are successively skimmed off, whence the name "cream of tartar" is given to the purified preparation; this is generally sold in the form of white powder, which feels gritty in the mouth, and gives a pleasant acid taste. Cream of tartar is used to form the cooling pleasant drink "imperial," which, by most persons, may be taken freely. In doses of from sixty to one hundred grains, cream of tartar, given, *stirred* into half a tumblerful of water,—it will not dissolve,—is one of the best diuretics we have; in doses of two or three drachms it acts as a mild laxative.—See *Jalap*. Some persons cannot take cream of tartar in any form without suffering from irritation of the kidneys. An over-dose might produce inflammation of the stomach.

Nitrate of potash or saltpetre, a compound of potash and nitric acid, is now brought chiefly from India, where it is obtained by "lixiviation," or by dissolving the nitrates of lime, soda, and potash, out of the soil, in which they exist in large quantity; the lixiviation being conducted over wood ashes. In this way the other nitrates are decomposed by the potash of the ashes, and nitrate of potash or saltpetre, formed. Nitrate of potash may be also formed artificially, as it was in France during the war, when the British cruisers interrupted the foreign supplies to that country, at a time when the salt was so largely required in the formation of gunpowder. It is made by throwing up large compost heaps, containing lime in some form or other, either mingled with decaying animal matter, or watered regularly with urine. These heaps are allowed to remain two or three years unmoved, during which time, by slow decomposition, nitric acid is formed in combination with the lime, and the nitrate of lime being then dissolved out by water, is easily converted into nitrate of potash by decomposition. At present, however, "a great part of the nitre (nitrates of potash,) used for the manufacture of powder in France, is obtained in Paris, from the lower stones of the houses, which are constantly in contact with the liquids of the streets and drains. The lime of the walls is gradually dissolved by the nitric acid formed; the walls lose their coherence and firmness; hence the name of wall corrossion, given to this injurious formation of nitre. The potash of the nitre is generally derived from bricks, and even the mortar contains some potash, which gradually decomposes the nitrate of lime, aided by the superior crystallising power of nitre, so that the latter salt is formed. But, generally, in order to obtain all the nitric acid, as nitrates, potash must be added to the liquid obtained from the scrapings of the walls, by lixiviation with water.

Saltpetre is usually sold in crystals of various sizes, or in the form of crystalline powder; its taste is peculiarly cooling. In doses of twenty grains, dissolved in two or three ounces of water, it increases the flow of urine, and is most frequently given for this purpose. In large doses, such as half an ounce or more, it occasions pain at the stomach, and vomiting, with extreme depression of the system, and may thus prove fatal. Free dilution with some demulcent, such as thin gruel or barley-water, inducement of vomiting, and counteraction of the depression by stimulants, would be the most appropriate treatment.

Hydriodate of potash, or iodide of potash, is a compound of iodine, or rather of iodic acid, with potash; it occurs in the form of white, and, when well-formed, cubical crystals. It is a preparation now much used by medical men, but is not a remedy calculated for domestic administration. It may, however, be used in the form of its ointment, in Bronchocele, or "full-throat."—See *Bronchocele*. It is very liable to adulteration.

Tartrate of potash and soda, or Rochelle salt, chiefly requires notice from its being the active ingredient of the well-known "seidlitz powders," which consist of the common soda and tartaric acid (effervescing powder), with the addition of a drachm of the tartrate of potash and soda to the alkaline powder.—See *Seidlitz*. Rochelle salt may, however, be used alone as an aperient, well dissolved in water, in doses of from one to six or eight drachms; its action is rather milder than, but resembles that of Epsom salts; the taste, however, is much more agreeable. Rochelle also, is sold, generally, in crystals, but may be bought in powder.*

POTATO.—This well-known tuber, introduced into Ireland in the sixteenth century, from South America, by Sir Walter Raleigh, not only forms a daily article of food throughout a large proportion of the civilized world, but, unfortunately, owing to the ease with which it is cultivated, has become the staple article of nutriment to millions. As an addition to other and more nutritive food, the potato is most invaluable; as the sole article of diet, although capable of supporting life, it is a wretched material, and any combination of circumstances, which induces or compels a population to depend upon it in too great a degree, must be regarded as most unfortunate.

The potato, undoubtedly, contains the elements of nutrition, that is, starchy and gummy matters,—see *Food*,—capable of sustaining the respiratory processes, and also "plastic material," adapted to build up the muscular and other constituents of living animal bodies, but those plastic materials are so deficient in quantity, their amount is so small compared with that of the other constituents of the tuber, which, moreover, contains a very large amount of water, that a man living solely upon potatos must consume a very large quantity to keep himself in health and strength, even if he can do the latter, when undergoing anything like exertion. From seven to ten pounds of potatos per day is by no means an unusual amount for a labouring Irishman to consume; but the ten pounds of the root, contain no more real nutriment than one pound and a half of good wheaten bread, although they afford abundant respiratory or carbon material. In consequence of the less amount of muscular, "plastic" nutriment, contained in his food, the Irish labourer is less adapted for *continued* exertion than the Englishman on his wheat and meat, or the Scotchman on his oatmeal.—See *Oats*. Moreover, it has been remarked, that the constitution of the Irish labourer is apt to give way earlier in life than that of the men of the sister kingdoms, and he is certainly more liable to be the victim of epidemic disease.

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* Permanganate of Potash—see Appendix, article—Disinfectants.

A remark of Liebig's well illustrates the value of the potato as an article of nutriment; he says, "A horse fed on potatos, and compelled to work, loses weight; when he does no work, his weight remains unchanged." Thus evidently showing, that the root is unable to supply the loss by "motor change," when active muscular exertion is undergone.

As an addition, simply, to other varied and more nutritious aliment, the potato must be esteemed most valuable; it supplies the natural desire for vegetable food, and affords it of a kind well adapted to promote the health of the system, in one of its most digestible forms. The appearance of true sea scurvy, in so many parts of the kingdom, during the period when, in consequence of the potato blight, the population generally were compelled to use drier and more animalized food in unusual proportion, sufficiently indicates how much we owe, in the matter of health, to the regular intermixture of the potato with our ordinary diet, and it is a questionable system of dietetics, which, except from some very cogent reason, excludes the *well*-cooked potato from the dinner-table of the invalid: the well-cooked potato, for nothing can be more indigestible than a badly-cooked one. It is, perhaps, superfluous to point out that a *well-boiled* potato should break down in a mealy form to its very centre; by well boiled, is not meant excessively boiled, for when this is done, much of the nutriment of the root is lost. In Dr. Beaumont's tables, roasted and baked potatos are said to take but two and a half hours for digestion, whilst boiled potatos take an hour longer.

Potatos which boil "waxy," are peculiarly unwholesome, and often pass through the bowels unchanged; the same may be said of early potatos, not the early kinds when matured or ripe, but as they are generally used in an immature condition,—mashed potatos do not generally get sufficiently mingled with the saliva to secure the full digestion of their starchy constituents.—See *Digestion*. Potatos soaked with gravy and dripping from roasted meat, though suitable for persons of strong digestion, are very liable to disagree with dyspeptics.

Potato starch, in the form of "British tapioca," is a very wholesome preparation.

Potato spirit or brandy, has been found more than usually deleterious.

Refer to—*Food*—*Fecula*.

POTENTILLA TORMENTILLA.—See *Tormentilla*.

POULTICE.—A poultice is generally understood to be an application adapted to afford moisture, and generally warmth, through the medium of some soft substance; or rather, it ought to afford these essentials, for, too often, cold dampness, or hardness and irritation, are the only derived effects from the ill-made and badly-applied poultices with which nurses are apt to indulge their charges.

As above stated, any soft substance which will retain heat and moisture, may be used to form a poultice; but some materials are better adapted than others for the purpose. The substances most generally used for poultices are, bread, linseed meal, oatmeal, arrow-root, carrots, turnips, &c.; with these are often intermingled lard, milk, honey, treacle, yeast, &c.; bran, so often recommended in this work, as a medium for applying heat and moisture, can scarcely be considered as a poultice properly so called. The mustard cataplasm, is also, sometimes, called a poultice, but improperly. The name cold poultice is also used.*

The essentials of a good poultice are, that it shall be perfectly smooth and free from lumps or hardness, that it shall be as soft and moist as possible without being sloppy, and that it shall have sufficient bulk to retain both its warmth and moisture, without being too heavy. No material, perhaps, offers more facility for making a good poultice than bread, and accordingly we find that the

Bread Poultice is, perhaps, more commonly used than any other. It is made either with water or milk, but the latter is a very doubtful addition, and the same may be said of the grease or lard often added to this form of poultice. The milk is apt to turn sour, and can answer no better purpose than the water; and when a greasy poultice is used, the bread is not requisite. The best mode of making a bread poultice, is to break the crumb of bread into a hot basin, pour boiling water over it sufficient to soak it thoroughly, and allow it to stand covered over for a few minutes by the side of the fire; any superfluous moisture being drained off, the pulp should be thickly spread upon a piece of cloth of the requisite size. In some cases it is advisable to interpose a piece of thin muslin between the poultice and the surface on which it is placed. The temperature at which a poultice is to be applied, must vary according to circumstances, but, generally, the best is that which is most agreeable to the patient; occasionally it is useful to have it as high as it can be borne. After a poultice is applied to the body, it is a good plan to cover the part, either with a fold of flannel or with oiled silk, to assist in retaining the warmth and moisture; the latter, moreover, prevents the moisture, which necessarily exhales from the application, damping the clothes, &c., often a very great inconvenience in badly-applied poultices. Indeed, the bad management of poultices generally, amid the poorer classes, constitutes a serious objection to their use; they are often either made so sloppy as to wet everything around, and to put the patient in great risk from cold, or they are made so small and stiff as very quickly to become caked and hard upon the surface, particularly if not sufficiently often renewed. Even in the most favourable circumstances, a poultice requires renewal at least three times in the twenty-four hours.

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* A Charcoal Poultice is very useful in cases of fœtid ulcers and sores of a sloughy character. It is made as follows:—Wood charcoal in powder, half an ounce; bread, two ounces; linseed meal, an ounce and a half; boiling water, ten fluid ounces. Mix the water, bread and linseed, then add half the charcoal, and sprinkle the remainder on the surface.

The cold bread poultice is often convenient, and must be made simply with cold instead of hot water.

The bread poultice may be made the medium for various medicated applications; thus hot decoction of poppy "heads," &c., may be used instead of hot water, or goulard may be added to the cold poultice with advantage. It is a necessary caution, that the material used for these medicated poultices should not—after use—be thrown where it can be picked up by poultry. After the bread poultice, probably the

Linseed Meal Poultice is more generally used than any other. For this purpose, ground linseed, free from grit, should be procured. To make the poultice, a sufficient amount of boiling water is to be poured into a hot basin, and the meal stirred in till the whole is of the proper consistence; the mass being beaten smooth before use, is then to be spread evenly upon the cloth. This forms a very smooth poultice when well made, and the oil, which the linseed naturally contains, tends to keep it soft. It is rather more stimulating than the bread poultice,—occasionally it is made by mistake, of the whole seed instead of the meal.

**The Oatmeal Poultice* may be made in a similar way to the linseed, but, although oats contain a considerable amount of fatty matter, it is not sufficient alone to make an oily poultice like the linseed; it is, therefore, very common to add a little lard; this, however, must not be done when the oatmeal poultice is, as very generally made, the medium for the

Fermenting or Yeast Poultice, which is best made by adding yeast—in the proportion of two table-spoonfuls to the quarter pound of meal—to a ready-made oatmeal poultice, mixing thoroughly, and, if requisite, heating to a proper temperature. If oatmeal is not at hand, flour may be used. This poultice is a very common application in cases of mortification, or of fetid sores.†

Arrow-root, made as for the table, was recommended by the late Dr. A. T. Thomson, as a soothing poultice in irritable sores and the like.

Other substances, such as carrots, turnips, &c., are often recommended and used as poultices, but they possess no advantage over those already named, and are objectionable from their smell; they may, however, be used, and indeed any soft substance, —consistent with cleanliness,—which will retain warmth and moisture, when bread or meal are not procurable, or when their use in this way is an object. When medicated poultices are required, as mentioned above, it is better to make the bread poultice with the infusion or decoction of the medicinal agent; in this way, the

Hemlock Poultice—may be made, or it may be formed as ordered in the *Dublin Pharmacopeia*, thus:—Take of dried hemlock leaves an ounce, water a pound and a half by measure; boil down to a pound, and add of the powder of hemlock leaves sufficient to make a poultice. This poultice is often effectual in subduing the pain of cancerous and painful sores.

Honey, treacle, &c., are not desirable additions to a poultice.

Bran Poultice.—See *Bran.*

Few applications are more generally used, either in regular or domestic surgery, than poultices, and, in their proper place, few are more useful. It is worthy of remark, that the most ancient poultice on record, is that of figs, applied to King Hezekiah, by the direction of the prophet Isaiah.

In painful swellings, attended with inflammation, such as boils, in inflamed wounds, and the like, or for promoting the discharge of matter, no application is more suitable than the poultice. For the uses of the large hot bran poultice in internal affections, see *Bran—Heat.* To the use of poultices, however, there is a limit, not always well observed, particularly in the case of wounds and ulcers. Up to a certain point they are most valuable, beyond it they do harm; instead of soothing and encouraging sufficient discharge, they attract the blood too strongly to the part, increase, beyond due measure, the discharge, and encourage the formation of "proud flesh." It is only practical experience which can teach the appearances indicative of the precise time when a poultice should be left off, but it may be guessed at, when healing processes, which have been going on favourably, seem to come to a stand-still, or retrograde; when the discharge rather increases than diminishes, and the surface and edges of the sore seem to become full, and at the same time pale and flabby.

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* For fœtid, mortifying, or indolent and unhealthy sores, the Chlorinated Soda Poultice is an excellent application. Boiling water, eight fluid ounces; powdered linseed, four ounces; Solution of Chlorinated Soda, two fluid ounces—stir constantly. Add the linseed to the water by degrees, then mix in the Chlorinated Soda.

† The British Pharmacopœia gives the following form:—Beer yeast, six fluid ounces; flour, fourteen ounces; water heated to 100°, six fluid ounces. Mix the yeast with the water; add the flour, and stir until a poultice is made. Place it near the fire until it rises.

After poulticing has been carried sufficiently far, the simple water dressing—see *Dressing*—is in most cases most suitable, it is cooler, pleasanter, and not so like a hot-bed as the common poultice. Some surgeons, and among them the celebrated Mr. Liston, substituted the water dressing in all cases for the poultice; indeed, the above gentleman used to say, the nurses of his hospital wards had forgotten how to make "a poultice,"—of which he says, in his *Operative Surgery*, "the very name is associated with putrefaction and nastiness." That Mr. Liston carried his prejudice against the poultice too far, may be suspected from the fact, that many of the first surgeons of the day continue to take advantage of it; but that the water dressing may be substituted in many cases is unquestionable, and it is certainly a much more elegant and agreeable application in every way. It does not, however, in all cases answer the purpose of the poultice; indeed, that it does not act in the same way is evident from the fact, that when a sore has been stimulated, as above described, by over poulticing, the substitution of the water dressing quickly gives it a more healthy character, thereby proving its less excitant character.

Somewhat similar, in principle at least, to the lint and oiled silk application, is the Spongio Piline, introduced a few years ago as a substitute for the poultice. This, the invention of Mr. Marckwick, consists of sponge cut up into fragments, and felted into a mass with cotton wool, a layer of this mingled material being backed with a waterproof varnish. The mingled sponge and cotton will of course absorb moisture freely, and retain it, and therefore in some measure act as a poultice. The author, however, cannot from his own experience speak favourably of its effects; in moderate-sized pieces it certainly does not answer well, but where large sheets of the material—as for a whole limb—are required and used, it may probably be very useful.

Refer to—*Dressing—Heat, &c.*

POULTRY—as food, must be considered under the divisions of the oily and non-oily. The flesh of the first class, including ducks, geese, &c., is certainly difficult of digestion, and perfectly inadmissible, even when plainly cooked, for invalids. The flesh of the non-oily kinds, such as common fowls, turkeys, &c., is more soluble in the stomach, but it is far from being as easily digested as generally imagined, certainly it is not equally digestible with tender mutton. The flesh of this description of poultry, as of chicken, for example, is more likely to agree if boiled rather than roasted. The flesh of poultry, when digested, does not, probably, prove so stimulant to the system as that of the larger animals, it is therefore more useful in many cases of convalescence, when animal food is first permitted.

"In the boiling or roasting of poultry, the flesh of which is white, and contains little blood, the temperature of the inner parts, when the flesh has been well cooked, seldom exceeds 130° or 140°. The flesh of poultry or game is, therefore, sooner dressed than flesh which contains much blood, such as beef or mutton."* The broth made from chicken or fowl, offers one of the best forms for giving animal nourishment in early convalescence.

POWDER.—The form of powder is a very common one for the administration of medicines, as in this way the peculiar actions of the drug are more readily and certainly developed. Powders generally, are prepared on the large scale by "drug grinders," but as in the process, the drug is very liable to extensive adulteration, some persons prefer preparing their own powders, although it is a very troublesome process. As drugs are more liable to spoil in the form of powder, emigrants and others may, in some instances, find it an advantage to powder their own. An iron mortar is generally used for powdering crude drugs, and if these are at all acrid, or indeed in any case, it is an advantage to have it fitted either with a wooden cover, or with a leather fastened round both mortar and pestle; a fine sieve is required to separate the finer portions of the powder from the coarser. Dr. Christison remarks in his *Dispensatory*. "The most prompt and effectual mode of obtaining fine powder is to use the mortar and sieve alternately—that is, to sift away the finer particles as soon as partial pulverization is accomplished, to pound, or triturate again what remains on the sieve, to sift this as soon as a little more fine powder is formed, and to repeat the alter-ate trituration and sifting frequently, till e whole substance has passed through the eve. In this way much time is saved, and ach less of the finest powder is lost, by ing driven off in triturating or pounding e coarser residue." As simple powders the majority of the drugs used in medi- e are prepared, it would take up un- essary space to enumerate them here. e most useful compound powders ad- ssible for domestic use are the—

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* Liebig's *Chemistry of Food*.

omatic powder.

mpound chalk powder, with opium.

mpound ipecacuanha, or Dover's powder. —See *Dover's Powder*.

mpound jalap powder—See *Jalap*.*

These are better purchased, particularly e compound chalk with opium, but may e made.

The compound aromatic powder is made y reducing to fine powder equal parts of nnamon, cardamom seeds, and ginger.

Powders ought always to be kept in well losed bottles, otherwise they lose their edicinal properties; some, such as squill r aloes, become damp and caked into a ass.

Powders are generally administered in ome thick vehicle, such as preserve, thick ruel, or the like; if given in thin fluids, uch as tea, &c., they are apt to sink to the ottom, and are partly lost.

PRACTITIONER, GENERAL.—The erm "general practitioner" has of late ears come into use as the designation of hose belonging to that large majority of he medical profession, who practise their rofession in all its branches, in contradis- inction to the physician, who eschews the ying-in chamber or the knife; to the pure urgeon whose province is the treatment of xternal diseases, or of such as require ope- ative procedure, and to the accoucheur. hese distinctions, useful in themselves, nder certain restrictions, can only be fol- wed out in large towns, or in isolated ases in particular districts: the mass of e profession must still continue to be eneral practitioners, apt for all that comes nder their care. The term in question as superseded the old name of apothecary, hich had become perfectly inapplicable to e practitioners of medicine in this king- om, who, although springing in the first stance from the apothecaries or chemists, e mere dispensers of the prescriptions of e physician or surgeon, have, by means of eir high education and the stringent ex- minations of the Apothecaries' Company, ken the place of the medical advisers nerally of the people of all ranks—a lace they are fairly entitled to. What is now required to complete the position of the general practitioner of medicine is, that they should as a body—except, perhaps, in the country, where it could not be conveniently acted upon—eschew the dispensing of their own drugs, and, certainly, in every case, cease to base their remuneration for advice and skill upon their medicines.

Refer to—*Medicine, Practice of—Physician —Surgeon, &c.*

PRACTICE.—The old saying that "practice makes perfect," is applicable to the practice of medicine, but it is with *some reservation;* a reservation which is not always taken into account by the public, nor admitted by a certain class—the "practical men"—in the profession. Without practical experience, it is certain, no man can be either physician or surgeon, however great his theoretical knowledge, but it is equally certain, if practical experience alone be trusted to, it will do but little to bring its possessor up to his proper position as regards medical science, and must often leave him at fault, when he ought not to be so, particularly in cases which differ from the ordinary routine. Neither years, nor extent of practice, can make the man a good practitioner, or at least as good a practitioner as he ought to be, if he neglects those aids and appliances in the investigation and treatment of disease, which the industry of his numerous brethren are daily bringing forward. The public may draw their own inferences.

PRÆCORDIAL REGION.—The fore-part of the chest over the heart.

PRECIPITATE.—Something thrown down; in chemical language, the term is applied to a substance which is separated in a fluid, by decomposition, and which falls to the bottom.

PRECOCITY—untimely maturity—is occasionally seen in the development of the body, and can only be regarded as a form of disease. Precocity of mind is by no means uncommon in children, and in too many instances is equally significant with undue physical development, and much to be dreaded. The morbid excitability of brain is but the result of disease, and gives no promise of super-eminence in after life. As a general rule, a precocious, or "strikingly clever" child, cannot be too much kept back from mental exertion; every effort should be made to divert the tendency to cerebral excitement, and by encouraging physical exertion, to divert the nervous power to the body at large: too often the reverse system is practised.

PREDISPOSITION.—See *Disease Hereditary—Marriage, &c.*

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* Some of the ingredients of these powders are changed in the British Pharmacopœia, but they are still e same in effect.

PREGNANCY is the condition of a female between the periods of conception and delivery. The state is to be considered, both as regards the symptoms which usually indicate its existence, and also with respect to the bodily disorders which are most commonly associated with it; some of the symptoms, moreover, are also disorders. It is usually considered that pregnancy cannot take place before the establishment of menstruation; and, as a general rule, it does not, but cases are recorded in which it does. The suppression of the above function, also, is always regarded as one of the most unequivocal proofs of pregnancy, but it is not by any means invariable; cases have been known, in which the secretion has appeared during the whole period up to the time of delivery, and in many it is manifested for one, two, or three months after conception. The swelling of the breasts, another sign of pregnancy, does not always occur, in a marked manner, if menstruation goes on, and may also be excited sympathetically by the presence of tumours, or by other causes of irritation connected with the womb. The breasts, also, may increase, simply from accumulation of fat; in this case, they do not afford the somewhat knotty feeling to the hand that they do in pregnancy, but are smoother and more uniformly increased in size; probably, too, the increased deposition of fat is general. For the first few weeks after pregnancy, the abdomen is flatter than usual, that is, before it begins to enlarge. The countenance undergoes an alteration, better known than to be described; the features look sharper, and the eyes larger than heretofore; these appearances, however, are more strongly manifested in some women than others. Among the earliest and best known of the symptomatic disorders of pregnancy, is nausea, with sickness. This is sometimes developed very early in the condition, occasionally within the first few days, but more generally not for two or three weeks; it is most usual in the morning, on the female first rising, but in some cases, is almost constant, and is then very distressing. Toothache is not an unfrequent attendant on pregnancy in all its stages. Salivation, that is, a constant flow of saliva into the mouth, causing constant spitting, is another though not very common symptom. Irritability of the bladder is common. Heartburn is most general in the later stages of pregnancy, but may be suffered from in all. In many, there is no very definite symptom, but a general feeling of unrest, with irritability of temper, &c. As pregnancy advances, other symptoms, or symptomatic disorders shew themselves; b frequently, after the first few months, health which has been disordered, und goes a remarkable change for the bet and continues good up to the period childbirth, when this change occurs, a sequence to symptoms of the first stages pregnancy, and the general symptoms the condition remain, any doubt of the t state of the case, if such has existed, m be laid aside. Some women never enj such regular good health, as they do duri the entire nine months they carry th child. About the sixteenth week, a lit before or after, the symptom of "quicke ing" occurs. This is popularly, but erron ously, thought to indicate the period whe the child first becomes endowed with life indeed, so fully has this error been embrace that upon it, a principle of English law involving life and death has been established The child is living from the commencemen of pregnancy, the symptom of quickening is occasioned by a sudden change of the position of the womb, consequent upon its increase in volume; after quickening, however, the movements of the child are more perceptibly felt. Quickening is generally accompanied with temporary sickness and faintness, and with a sense of alarm for a short time. After its occurrence, the abdomen enlarges more perceptibly. Milk is now, or even before this found in the breasts, and the capability of its expression from them, may be taken as a corroborative, but not as an absolute sign of pregnancy, for it may occur independent of that condition, and in women who have already borne children, milk is apt to linger in the breasts for a considerable period. The nipple is sensibly enlarged after conception, and in most cases, is surrounded by a more or less coloured ring, the "areola," as it is called by medical men. In some females, especially those with dark hair and skin, the areola is often extremely deeply coloured, of the deepest brown—from this shade it is of every variety, and in some is absent altogether; it, therefore, is not an invariable sign of pregnancy, for the reason, more especially, that it is sometimes witnessed without that condition.

The urine is found to be in some cases altered during pregnancy, particularly in the later months. If a portion of the secretion is allowed to stand four and twenty or six and thirty hours, a greasy-looking scum, with a cheesy smell, and presenting peculiar appearances under the microscope, is found on the surface. This does not shew in all cases.

From the remarks above made, it may be

gathered, that although there are many signs and symptoms of pregnancy, there is, probably, not one which can by itself be depended upon in doubtful cases. In most instances, the combination and perfect development of a certain number of the above symptoms make the case certain; but it may happen, that there is much difficulty in coming to a satisfactory conclusion, especially in the earlier stages, and if there is any desire for concealment. Medical men are often unjustly blamed, and now and then laughed at, for having in the earlier stages of pregnancy, treated the disorders thence resulting as ordinary ailments, characterized by the same symptoms. Where there is reason, as in the case of marriage, to expect pregnancy, this is not likely to be the case, for if the examination of the practitioner did not lead him to the fact, it is probable the female herself would intimate the possibility of her symptoms arising therefrom; in those cases, however, in which pregnancy can neither be expected, nor suspected; and especially if there is reason for and attempt at concealment, it must be obvious to all, how little, comparatively, there may be to lead to a conclusion which is not looked for; and, further, how delicate must be the position, and how guarded the opinions of a medical man so situated. Were these matters better understood, and their difficulties more appreciated, his—often only apparent—errors in these matters would be more charitably regarded.

By the fifth month of pregnancy, all the symptoms have for the most part become evident, but there are disorders which more generally show themselves during the latter part of the period. One of the most frequent of these is costiveness, occasioned, doubtless, in part, by the mechanical obstruction, caused by the enlarged womb. The legs are apt to become swollen, or their veins to enlarge, from the same cause acting upon the large veins within the abdomen. The impediment to the flow of blood, also, exhibits itself in the formation of piles, which may cause much inconvenience during the last months of pregnancy.

Cramp in the lower limbs, caused by the pressure of the enlarged womb upon the nerves, often causes much annoyance, and sympathetic nervous pains throughout the body are not uncommon. Irritability of the bladder is apt to be much increased at this time; headaches, too, occur in some women, and may be of great severity, threatening convulsion. The above is rather a formidable array of the ailments from which many pregnant women may suffer, and some unquestionably do suffer, and severely so; but very many are free from the majority of them, except perhaps in slight degree; as said above, some women never enjoy such perfect health as they do when "in the family way."

The proper management of the disorders incident to pregnancy, will certainly do much to alleviate their inconveniences.

The first which generally requires attention, is the sickness. This may in some measure be prevented by attention to diet, and by the avoidance of all articles of food which were known to disagree, or which are found to disagree; for the rule which holds good in the ordinary state does not always do so in pregnancy. Effervescing draughts, made with soda and tartaric acid or lemon juice—see *Effervescing*—are useful, and to each may be added from half to a whole tea-spoonful of sal volatile. A medical man may possibly add a drop or two of the medicinal prussic acid to each dose, but this must be left to medical regulation. If there is much acidity, the bicarbonates of soda or potass, or the fluid magnesia, will be found useful, and at the same time check the vomiting. In cases of debility, a tea-spoonful of calcined magnesia, in three parts of a wine-glassful of sherry, may be given with advantage. In obstinate heartburn and indigestion, with or without vomiting, a wine-glassful of the infusion of calumba, in combination with soda, potash, or magnesia, is one of the best remedies, and may be taken twice, or, if requisite, thrice a day. In cases of extremely obstinate vomiting, creasote—see *Creasote*—may be tried. The tincture of nux vomica, in twenty-drop doses, will very likely prove serviceable, but can only be given with safety by a medical man.*

The costiveness of pregnancy is often more troublesome to manage, as the usual, convenient, aperient pills are inadmissible, on account of the aloes they contain.

Castor-oil is the most generally useful and safe aperient when it can be taken regularly, but very many find it impossible to continue its use for long, in consequence of the nausea it occasions. Those whose bowels are very easily moved, sometimes find the finest olive or salad oil answer well in table-spoonful doses. Senna infusion may be safely taken in the pregnant state, and in those who are of full habit, small well diluted doses of the neutral salts, such as Epsom or Rochelle, are extremely useful. Rhubarb and magnesia is a safe combination, but generally too mild. The regular use of some form of clyster—see *Clyster*—which is found to be sufficiently efficacious is one of the best methods of regulating the bowels in pregnancy, and regulated they must be in some way; there is nothing more likely, not only to increase the uncomfortable sensations incident to the condition itself, but to render delivery more difficult, and recovery from it more liable to accident, than an habitually constipated condition of the bowels. When piles occur, it is generally in connexion with costiveness—see *Piles*. Irritability of the bladder, characterized by constant desire to pass urine, is sometimes very obstinate, and, in the later stages, in which it depends on the mechanical pressure of the enlarged womb, very difficult to remove. It is most likely to be alleviated by the use of a broad belt or band passed round the abdomen, so as to give adequate mechanical support to the enlarged womb; indeed, the belt will not only often relieve the above troublesome symptom, but will remove many of the other uneasy or painful sensations which accompany the latter stages of pregnancy. When, along with irritability of the bladder, the urine is scanty, high coloured, and deposits red sediment on standing, ten-drop doses of potash solution taken in barley water, twice or three times a day, will probably give much relief; in weakly and debilitated constitutions, ten drops of the tincture of muriate of iron, in a wine-glassful of water, twice a day, will be perhaps a better remedy. Malt liquor is apt to increase the urinary irritation, and must therefore be avoided; and, if stimulants are required, wine and water, or weak brandy or gin and water substituted.

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* The Oxalate of Cerium in one grain—dose, three times a day, has been strongly advocated by Professor Simpson of Edinburgh, but it is doubtful if it has any special virtue in allaying the vomiting of pregnancy. Another remedy frequently successful in the sickness of pregnancy, is small lumps of ice swallowed at short intervals.

Cramp, being dependent on a mechanical cause, is difficult to remove; it may, however, be alleviated by the use of the abdominal belt, and by strict attention to the state of the bowels and digestive organs; indeed, during the whole period of pregnancy, carefulness and moderation in diet will be found to influence greatly for the better many of the casual inconveniences. —See *Cramp.*[*]

Swelling of the legs, and of their veins, being dependent, like cramp, on mechanical causes, is to be relieved by attention to mechanical modes of treatment, particularly by care that no unnecessary accumulation in the bowels adds to the obstruction to the return of the blood through the veins, keeping the feet and legs up as much as possible; bandaging, friction, &c., are all useful in relieving the condition. — See *Veins*.

The breasts should be left as free as consistent with appearance, and the nipples especially attended to.—See *Nipples*. Headache, if continued and severe in pregnancy, is a symptom which must not be overlooked; it may simply be owing to costiveness, or other slight temporary causes, and be easily removable; but if it is continued, severe, accompanied with flushing of the features, fulness or redness of the eyes, throbbing of the vessels of the head and neck, medical assistance should be sought without delay; in the meantime, the measures recommended in cases of threatened inflammation of the brain are to be carried out more or less actively, according to the severity of symptoms. Convulsions sometimes occur in pregnancy: a medical man must see the case without a moment's unnecessary delay, if possible; but if delay must occur, the patient should be managed as recommended under article *Convulsion*, or as directed in the remarks upon the same affection after delivery.—See *Child-birth*. Fainting is a symptom which *may* be of grave import: its cause should be investigated by a medical attendant; in the meanwhile, it must be treated as fainting generally, unless it is dependent on loss of blood, as in abortion.—See *Abortion*.

Troublesome itching eruptions on the skin, sore and ulcerated mouth, are all apt to be attendant on the condition of pregnancy; they are to be treated in the ordinary method,—see *Aptha—Skin, &c.*,—but are often incurable, and disappear only after delivery.

The above are the chief physical considerations connected with this most important phase of human life; but this article would be very incomplete, without some allusion to those moral disorders and requirements, which exert so powerful an influence over the well-being and well-doing of both mother and infant. And, it may be remarked, that without attention to the physical health of the body, the moral atmosphere is much more liable to be disturbed, and that the mind is much more apt to become irritable, especially if the digestive organs are disordered—as they often are—by the too great indulgence in food, which is frequently thought to be not only allowable, but desirable in the pregnant state. The same effect follows the indolent habits so often indulged in. Unless prohibited for cogent reasons, regular sufficient exercise ought to be taken daily, up to the time of confinement—nothing tends more to preserve the health of the body or cheerfulness of the mind. It is not by any means desirable for a female, during pregnancy, to withdraw from the performance of the ordinary active duties of life; the mental engagement resulting therefrom is

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[*] Continued experience confirms the author, as regards the value of the abdominal belt in relieving many of the uncomfortable sensations connected with pregnancy. These belts are now constructed in many different forms by the regular makers of such articles, but patients frequently make very efficient ones for themselves.

ficial, and prevents the thoughts
rting, as they *will* do sometimes,
eable or gloomy subjects. At the
e, a woman, during pregnancy,
be freed from any of the severer
harrassing occupations, and as
ossible kept from mental uneasi-
spared, as far as can be, those
ich excite unpleasant emotions in
. That the infant is affected by
l condition of the mother, is un-
she cannot be too careful in
guard over herself, not for her
ke solely, but for her own in
rs, when that child may display
which it owes to the maternal
in the first period of its existence.
rbid longings of pregnancy have
ady alluded to.—See *Longings.*
ble extension of pregnancy is im-
only as a matter of convenience,
the mother to calculate and make
ary arrangements for her confine-
t its precise duration, or the num-
eks or days required to complete
not unfrequently becomes of the
us moment, as a point of law, on
y hinge the inheritance of fortune
, or the happiness and fair fame of
nd individuals. The generally
lculation for the duration of preg-
orty weeks, or 280 days, from the
rual period; but, evidently, such
ion must be liable to some varia-
law, all births which occur before
-eighth week of pregnancy, are
d premature; those after the
eek, as protracted cases. It is
at cases are frequently protracted
he fortieth week, of calculation at
that these generally prove male

bject of false pregnancy is of con-
interest and importance: the fol-
emarks from Dr. Montgomery's
Symptoms of Pregnancy are in-
and may put some on their guard,
necessary," says the author, "to
ondition of the female system of a
le kind, most frequently observed
turn of life when the catamenia,
; irregular, previous to their final
, are suppressed for a few periods,
e same time, the stomach being out
nausea or vomiting is experienced,
s enlarge, become sensible, or even
painful, and sometimes a serous
actescent fluid exudes from the
d orifices of the areolar tubercles;
nen grows fuller, and more promi-
ecially in women of full habit, and
onally disposed to *embonpoint;* and the abdominal enlargement progressively increases, partly from deposition of fat in the integuments and in the omentum, but still more from distension of the intestines by flatus, which, passing from one part to another, communicates a sensation like that produced by the motion of a fœtus; the nervous system is generally much disturbed, and the woman feels convinced that she is pregnant, an idea which, at the time of life alluded to, is cherished by the sex with extraordinary devotion, and relinquished with proportionate reluctance, and not unfrequently at the end of the supposed gestation, the delusion is rendered complete, and almost assumes the character of reality, by the occurrence of periodical pains, strongly resembling labour."

The occurrence of abortion during pregnancy, and the precautions to be adopted when the tendency exists, or indeed at any time, having been already treated of under the head of *Abortion*, it is unnecessary to reiterate them here.

Refer to—*Abortion—Child-bed—Pelvis, &c.*

PREMATURE BIRTH.—One which occurs before the thirty-eighth week of pregnancy. In most cases, the occurrence of premature confinement is to be sedulously guarded against, for it cannot be expected that children generally, born out of due time, can be as strong as those whose birth is in every respect regular. Cases, however, do occur, in which, both on account of the mother's safety, and as the only possible chance of having a living child produced at all, it is necessary to induce premature labour.—See *Pelvis.* The induction of premature labour can, of course, only be entrusted to the hands of the skilful.—See *Child-Bed—Pregnancy, &c.*

PRESCRIPTION.—A medical prescription is the form, with directions, in which a medicine, or medicines, are ordered, or "prescribed," by a medical man. In England, both prescriptions and directions are usually written in Latin; in Scotland the directions are very generally given in English, and though, perhaps, the method is not so consistent as that which preserves the same language throughout, it is safer and more convenient. In former times, prescriptions were much more complicated than they are now, generally at least, and certainly the simplicity may be regarded as a sign of increased medical knowledge, and of greater confidence in the action of medicines. Some persons even contend that in prescriptions there should be no intermixture of medicines, but that one only should be given with a certain definite object, and allowed to operate unembarrassed by the presence of others. It is not difficult to show how materially this would interfere with the efficiency of practical medicine; at least in the present state of our knowledge. Many persons seem to imagine that because a medical man can sit down and write off a prescription in a few minutes, it is quite as easy for him to *give* it when requested. This erroneous impression does not extend so much to physicians practising only as such, but it often operates to the injury of the general practitioner, who is not unfrequently—when persons are leaving his vicinity, either temporarily or permanently — asked for his prescription of medicine they have been taking, while at the same time, there is but little idea of its being paid for. A moment's reflection will show that this prescription is as much a work of skill, and the result of previous labour, as the design of the artist, and that, moreover, in furnishing it, the medical man is probably interfering with his own remuneration at some future time, when the prescription is made to stand in lieu of his advice. Some general practitioners refuse their prescriptions altogether; this they are not justified in doing, but if they do furnish them, they are quite entitled to their guinea fee. Another error with respect to prescriptions is, that one having been found of service at some former time, is very generally had recourse to at another; in some few cases the act may not be followed by any particular injury, but, generally, it is a very foolish system, and persons who can afford to fee a physician, but prefer, instead, to take advantage of some old prescription, deserve to pay in a little inconvenience for their stinginess.

PRESERVED PROVISIONS. — The tendency of all dead organized matter which contains moisture is, at ordinary temperatures, to undergo chemical change —see *Putrefaction*—or, in other words, the various vegetable and animal products, when deprived of life, decay. When these products are such as are employed for food, it of course becomes a matter of considerable importance to counteract this tendency to decomposition, by which the articles are speedily rendered useless. It becomes of importance to preserve them as perfectly, and for as long a period as possible. The preservation of provisions may be effected: 1st, By cold—that is, by keeping them at a temperature below that at which putrefaction takes place. 2nd, By heat, which acts by hardening and coagulating the albumen and other constituents, so that they are more disposed to resist chemical change, or by heat and dryness combined, so that the water—which is essential for the p cess of putrefaction—is removed. 3rd, the use of certain agents, or antiseptic see *Antiseptics*—which impart the power resisting decomposition; and 4th, by e cluding the action of the atmosphere, t oxygen of which is requisite for the put factive process.

The preservation of articles of food keeping them at a low temperature, sufficiently well known; and among su nations as the Russians, whose clima during the winter months is one of u varying frost, the preservative action cold is largely taken advantage of. Catt poultry, &c., are killed at the com mencement of frost, allowed to becom frozen throughout, and in this conditio are brought to market at the large winte fairs; fish are treated in the same way, an are thus preserved for months in a perfectl fresh and wholesome state; provisions thus preserved, only requiring the precaution of being *gradually* thawed, before use, by immersion in cold water. In this country ice, as all know, is now largely used to pack salmon, and fish generally, in summer time. This mode of preserving provisions by means of cold is, evidently, however, capable of but partial application, and is usable only under limited circumstances.

The action of an elevated temperature, such as is employed in cooking food, must be regarded rather as a retarder, than as a complete withstander of putrefaction; it is therefore inapplicable, except as a mere temporary expedient. When heat is combined with dryness, it acts much more perfectly as a preservative. This is exemplified, in the preservation for years, of the bodies of men and animals who have perished in the African deserts; and also in the practice, more especially of the Indians others of the South American Pampas, who preserve their beef by cutting it in strips and hanging it to dry in the hot sun in a current of air; preserved in this way it will keep for a considerable time.

In the case of vegetables, which contain so large an amount of water, in proportion to their solid and nutrient material, the process of drying is peculiarly applicable, and seems likely to be largely employed as the means of furnishing *fresh* vegetable food, for ships, in a compact and easily carried form, when, in addition to the dessication, compression is also resorted to. This double process "appears recently to have been put into execution with very considerable success, under the patent of M. Masson, head gardener to the Horticultural Society of Paris. This gentleman has succeeded in preserving in a very perfect manner various descriptions of vegetables and fruits; the substances thus preserved are dry and shrivelled, contain but little water, and it is evident from their appearance that a very essential part of the process of preservation consists in the abstraction of the water, which forms so very considerable a portion of the weight and bulk of nearly all vegetables and fruits. When vegetables thus prepared are immersed in water for some time, they swell up, become soft and tender, and resume, to a great extent, the appearance, colour, and flavour proper to them in the fresh state. M. Masson has managed to preserve completely, spinach, Brussels sprouts, cabbage, beans, peas, sliced carrots, parsnips, potatos, apples, &c.

"It is stated that a cubic yard of these dried and compressed vegetables contains as much as 16,000 rations; and that they are of better flavour, and much cheaper than the vegetables preserved in canisters."

The preservation of provisions by their impregnation with antiseptic agents, such as salt, is perhaps more extensively practised than any other method. Salt, sugar, spices, vinegar, spirit, and fumigation by burning wood, which is in fact preserving by means of creasote, are the most common preserving methods, and for many purposes answer perfectly, both as regards the agreeability, and within certain limits, of use, the wholesomeness of the food to which they are applied; they have, however, the drawback of being partly, in themselves, chemical additions to food, and also of inducing chemical changes, which modify, at least, the quality and digestibility of the aliment. Moreover, salt extracts, "draws out," from meat some of its most important nutrient constituents. Liebig, in his *Chemistry of Food*, remarks:—"It is universally known that in the salting of meat, the flesh is rubbed and sprinkled with dry salt, and that where the salt and meat are in contact a brine is formed, amounting in bulk to one-third of the fluid contained in the raw flesh. I have ascertained that the brine contains the chief constituents of a concentrated soup, or infusion of meat, and that, therefore, in the process of salting, the composition of the flesh is changed; and this, too, in a much greater degree than occurs in boiling. In boiling, the highly nutritious albumen remains in the mass of flesh; but in salting, the albumen is separated from the flesh; for when the brine from salted meat is heated to boiling, a large quantity of albumen separates as a coagulum.

"It is now easy to understand that in the salting of meat. when this is pushed so far as to produce the brine above mentioned, a number of substances are withdrawn from the flesh, which are essential to its constitution, and that it therefore loses in nutritive quality in proportion to this abstraction. If these substances be not supplied from other quarters, it is obvious that a part of the flesh is converted into an element of respiration—certainly not conducive to good health. It is certain, moreover, that the health of a man cannot be permanently sustained by means of salted meat, if the quantity be not greatly increased, inasmuch as it cannot perfectly replace, by the substances it contains, those parts of the body which have been expelled in consequence of the changes of matter, nor can it preserve in its normal state the fluid distributed in every part of the body, namely, the juices of the flesh. A change in the gastric juice, and consequently in that of the products of the digestive process, must be regarded as an inevitable result of the long-continued use of salted meat; and if, during digestion, the substances necessary to the transformation of that species of food be taken from other parts of the organism, these parts must lose their normal condition."

From the above objections, the process of preservation by exclusion of the action of atmospheric air is free; it does not preserve by inducing change, but, like cold, by preventing it. This mode of preserving food is yearly assuming more importance, and being more largely practised. The action of the atmosphere may be prevented in various ways: as by covering the articles with melted fat, &c.; but the most perfect method, and that which is most largely resorted to, is the inclosure of the food in cases from which the air is then expelled, and which are made so impervious as to prevent the access of air; upon the perfection of the air excluding process, both at the time and permanently, depends, entirely, the preservation of the article.

The following description is taken from the *Lancet*:—"The article to be preserved is placed, sometimes in the raw state, but generally cooked, in a tin canister, the lid of which is soldered down, but is perforated with a small aperture, or pin-hole. It is then subjected to the action of either steam, boiling-water, or a muriate of lime bath, until the contents of the canister, if not previously dressed, have become about two-thirds cooked. The aperture in the cover is then closed, and the canister and its contents are once more submitted for a shorter period—that is, until the articleis completely dressed—to the operation of heat. As soon as it has become cold the canister is covered over with a coating of paint; its preparation is then complete and it is then removed to the proving-room. The proving-room is simply an apartment the temperature of which has been raised to the degree most favourable to decomposition. If the operation has been well performed, the top and bottom of the canister, as also, in some cases, the sides, will have fallen in or have collapsed to some extent; this indicates the exhaustion of the air within, and is regarded by the manufacturer as a tolerably correct proof that the process has been properly conducted. If, however, after some days' exposure in the proving-room, the top and bottom of the canister first become flat and subsequently even convex, it is a certain sign that the contents have not been well cured, and that they are not in a condition to keep for any length of time; such canisters have therefore to be either rejected, or else subjected to the process over again. * * * It should be known that it is not only *boiled* provisions which may preserved by the above process, but *roasted* also, with but a little extra care."

The preparation and employment of provisions preserved in a fresh condition are important both in a sanitary and in an economic point of view, independent of the means of luxury which is thus afforded, it might be, and will probably be, of cheap luxury.

In all situations, as on board ship, where access to fresh provisions in their usual state is necessarily curtailed or denied, the preserved provision store is most invaluable as a means of preserving health, and those, such as emigrants, who meditate a long sea voyage, unless they are satisfied that the ship they embark in is well supplied with fresh preserved food, ought, if possible, to have a small private store. The recent notorious disclosures in connection with the preserved meats provided for the use of the navy, might prejudice some against this description of food, but there are many establishments at which preserved food can be procured of the most excellent kind, and there is, perhaps, some reason to suppose that in the case of the navy provisions, the evil may have resulted partly in consequence of careless stowage; this ought, therefore, to be guarded against, an accidental blow, or corrosion of the solder by damp, which makes an aperture no larger than a pin-hole, being sufficient to spoil the entire contents of a canister.

As regards the economic advantages to be derived from the employment of preserved provisions, it is sufficient to advert to the facts, that in South America[*] t cattle are slaughtered for the sake of the hides, horny parts, bones, &c., and that t flesh is wasted; that in Australia, she have been boiled down for the sake of the tallow alone. How great would be t boon to this country, could this, local superfluous, flesh be preserved for use.

Charcoal, from its remarkable power absorbing gases, is sometimes used as preservative in which articles of food a packed. Lastly, such preparations as th "Patent Meat Biscuit," manufactured i the United States, which gained one of th medals at the Great Exhibition, offer othe forms in which nourishment may be preserved in a concentrated state. "This new and useful preparation of concentrated meat and bread can be prepared for use in the shortest time as a soup. One pound of this meat biscuit, contains the nutriment of five pounds of the best beef, the extract of which is combined and baked with the finest flour, forming the most portable and convenient diet known. It is eminently adapted for emigrants, travellers, and for ordinary use in families, &c. Its easy digestibility and highly nutritious properties render it very valuable for invalids and convalescents, and generally for use in hospitals." It is sold at the agency, 2, St. Peter's-alley, Cornhill.

Extract of beef, said to contain in one ounce the nutriment of a pound, as prepared by Mr. Robertson, of Manchester, is a somewhat analogous preparation.

Pemican, which "consists of the muscular fibre of beef, baked, and reduced to a coarse powder," is another form of preserving animal food worthy of attention. For much of the information contained in the above article, the author is indebted to the *Lancet* papers on the subject.

Refer to—*Antiseptics*.

PRESSURE.—The effect of continued pressure upon the living body, may be regarded either as a cause of disease or as a curative agent.

The effect of pressure in altering the shape, &c., of even the hardest portion of the animal frame, is well known: the savage Carib employs it to flatten the skull of his children into a hideous deformity, by him thought beauty; and the civilized female too often has recourse to it, with equally false ideas of proportion, to mould the ribs at her waist into a state of permanent contraction, both instances show how even the bones may be affected by pressure from without, applied over an extended surface; when the surface of pressure is small the bone is absorbed, as evinced by the hollow often

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[*] It is much to be regretted that the efforts made to obtain supplies of essence of meat, and of preserved beef from the above source, have not been attended with more success, especially at the present time when the price of meat in this country is so high, and likely, from the disease among cattle, to become higher still. The new extract of meat, however, called "Liebig's Extractum," carries promise to be a successful addition to our nutrients.

he breast-bone of shoemakers,
many years pressed the "last"
me spot.* The effect of pres-
e surfaces of the body, if long
to cause thickening, as seen
hand of the labourer, or in the
tight shoe. When, however,
o suddenly and continuously
faces unused to it, especially in
ates of body, instead of giving
ning, it is apt to occasion mor-
at least ulceration. This effect
one of the most serious compli-
ost long continued illnesses, in
fficulty, and often almost the
of moving a patient, or at least
continued pressure upon the
ent points of the body, are a
ch suffering on the one hand,
y on the other. In a long case
ay happen, especially if there
d, at times, under even the most
nagement, that ulcerated or
spots form on the back of the
of the ears, the points of the
des, between the hips, &c. To
e effects, there are the various
spring and water beds, elastic
* See *Bed, Elastic—Fever, &c.*
of pressure, as a curative agent,
able. Thus, when thickening
of a limb, has followed inflam-
ontinued and even pressure of
of an elastic covering, will do
sten its reduction. Tumours,
chocele, will disappear under
l pressure. Bleeding which
may be stopped by pressure pro-
d—see *Artery*—and lately the
sure has been used—especially
s a remedy in aneurism, acting
ng the circulation of the blood
vessel with which the aneu-
r is connected. The continued
he atmosphere upon the surface
at ordinary elevations, by its
indicated by the changes of the
probably exercises a greater
on our health and sensations
ally suspected. The distress-
perienced from the diminished
part at least, by those who
heights, is well known.—See

Y HEAT—is a peculiar affec-
skin which affects those who
limates, especially when first
which also occurs in hot sum-
country. The following de-
the late Dr. James Johnson,
erience of the affection in India,
ed:—"The sensations arising from prickly heat are perfectly indescribable, being compounded of pricking, itching, tingling, and many other feelings for which I have no appropriate appellation." "It is usually, but not invariably, accompanied by an eruption of vivid red pimples, not larger in general than a pin's head, which spread over the breast, arms, thighs, neck, and occasionally along the forehead. This eruption often disappears in great measure when we are sitting quiet, and the skin is cool; but no sooner do we use any exercise that brings out a perspiration, or swallow any warm or stimulating fluid, such as tea, soup, or wine, than the pimples become elevated, so as to be distinctly seen, and but too distinctly felt."

In reference to the imagined dangers of repelling this eruption, Dr. Johnson continues, "Indeed, I never saw it even repelled by the cold bath, and in my own case, as well as in many others, it seemed rather to aggravate the eruption and disagreeable sensations, especially during the glow which succeeded immersion. It certainly disappears suddenly, sometimes on the accession of other diseases, but I never had reason to suppose that its disappearance occasioned them. I have tried lime juice, hair powder, and a variety of external applications, with little or no benefit; in short, the only means which I ever saw productive of any good effect in mitigating its violence, till the constitution got assimilated to the climate, were light clothing, temperance in eating and drinking, avoiding all exercise in the heat of the day; open bowels, and last, not least, a determined resolution to resist with stoical apathy its first attacks. To sit quiet and unmoved under its pressure, is undoubtedly no easy task, but if we can only muster up fortitude enough to bear with patience the first few minutes of the assault, without being roused into motion, the enemy, like the foiled tigers, will generally sneak, and leave us victorious for the time.

PRIVIES AND WATER CLOSETS.—The faulty regulation, insufficient supply, or even total want of these necessary appendages to *every habitation*, are the sources of some of the greatest nuisances of our large towns especially, are most fertile sources of disease in crowded localities,† and have presented, and still present, great difficulties in the way of sanitary reformation. In country places, the difficulty of procuring a sufficient supply, and proper arrangement of the water requisite for a closet, render privies almost matters of necessity; this, under the circumstances, is matter of less consequence, provided these places are situated at a sufficient distance from the house, and are kept properly regulated and cleansed; they may, too, be rendered almost as convenient as water closets by means of the highly recommended patent "pan" of the Messrs. Fyfe, of Tavistock Street, provided there is a drainage sufficient attached to them to carry off the quart of water which is directed to be poured down each time after use. Fig. A. represents this very useful contrivance, with the self-acting valve—1—closed, and made perfectly air-tight by means of the water it retains. Fig. B. represents the valve—1—in the act of delivering. It is desirable, from time to time, to throw into the cesspool of a privy some dry absorbent material, such as earth, time, &c. If peat charcoal could be more easily procured, it would probably be found the best material for this purpose. These, and similar places, should never be cleansed out in warm weather; if they become offensive, chloride of lime in some form should be employed about the place, or thrown into the cesspool, until cool weather permits the removal of the nuisance.*

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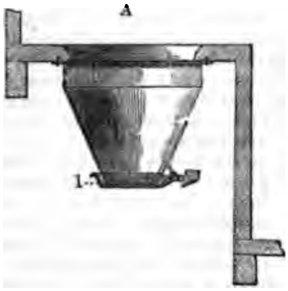
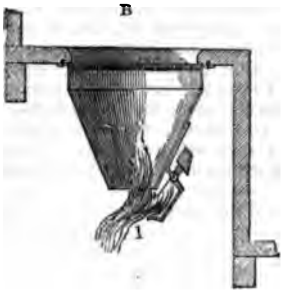
* See foot-note, article—Fever, page 243.

† Refer to Appendix, article—Enteric or Typhoid Fever.

A



B



In towns and crowded places, privies should never be permitted, but efficient water-closets, with well *constructed drains*—see *Drainage*—substituted; and one should be attached to every house, both
sake of cleanliness and of decency.

The evils which result from th
quate provision of the accomm
in question, in the more crowded a
districts of "Large Towns and
Districts," are thus alluded to by th
missioners of Inquiry," in the Rep
lished in 1845. After describing the
ficiencies in such places as Nottingh
chester, Ashton, and London, it is r
"It is unnecessary to dwell upon t
sive injury to health, decency, an
which such defective arrangemen
ably entail." These places being
to by great numbers, and under n
tions as to cleansing, are constant
most disgusting state of filth, and
causes of as great injury to the
the inhabitants in their immediate
as any of the numerous influences
have already brought under noti
the injury is not alone confined to t
of the occupants, the owners of th
also suffer great losses. Many i
occur where the walls of the
houses are constantly wet with fet
which frequently affects the atmos
the rooms, so as to render it impo
keep food for one single night wi
becoming tainted. The deterior
property from these causes is very c
able. Added to this, a constant
incurred by the inability of tenant
their rents, from sickness. It is co
alleged, that it is useless to imp
houses inhabited by the poorer
because there are no public regul
enforce attention to their constant
ness, and that in the absence of such
ments, they would soon recur to thei
condition.

These allegations have probabl
drawn from the fact of such large
of the poorer classes being found
in their present miserable abodes,
they are obliged to tolerate the
filth around them, to which they
inured by habit, and continue to live
from the difficulty of finding bett
dences. It is certain that, under
cumstances, better habits cannot
quired, nor, if in existence, are the
to be retained. It cannot be deni
the poorest classes would most
appreciate any improvement which
the means of speedily removing the
accumulations of filth from the vi
their houses, and which would fr
from their injurious consequences.
amelioration of their dwellings, by i
ing their health, and enabling them t

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* Moule's Patent Earth Closets or Commodes, are especially useful in cases where the ordi
closet is impracticable. They are to be had in a portable form, or so that they can be erected an
any convenient place, of Messrs White & Co., 29 Bedford Street, Strand.

their employments with fewer interruptions from sickness, would also increase the means at their disposal for paying their rents, &c.*

Refer to—*Drainage.*

PROGNOSIS—is the opinion of a medical man respecting the ultimate issue, possible, probable, or certain, of a case of disease. The formation of a prognosis involves a great variety of considerations. Independent of the nature of the disease itself, the constitutional tendencies of the patient, hereditary or acquired, must be duly weighed, the age, the mental condition, the external circumstances, and many others have all to be taken into account. Thus, for instance, in a person threatened with consumption, who has lost relatives, more or fewer, from the disease, the prognosis must be a more unfavourable one than when the disease is apparently—if we may so speak—accidentally developed; or, again, in a case of disease of the heart, occurring in a man forced to engage in bodily labour for his bread, the prognosis will be of a graver character, than when the same disease affects a man at ease as regards this world's goods.

When a medical man sees a patient, if the case be at all serious, either the individual, or surrounding friends, are usually very anxious for a prognosis, an opinion, as to the ultimate issue of the case. In many cases it is possible to give this decidedly, and at once, and if it can be, it ought to be done; but, in many cases, it is quite impossible to come to any conclusion, and at least a second visit, if not more, must be paid before a just idea of the termination can be approached.

Some medical men are in the habit of giving, generally, a bad prognosis, that is, they express their opinion of the worst possibilities. This may arise from constitutional tendency to regard the dark side of matters, but more generally it originates in a selfish wish to serve their own reputation; if the patient dies, they are right; if he recovers, they have the more credit in the cure. However politic the course, it is neither considerate nor honest, for it sacrifices the feelings of relatives at least, to a selfish expediency, and causes unnecessary anxiety. In some measure, however, the public are themselves to blame in the matter, from the little consideration often shown to a medical man, if his prognosis of a case turns out to be erroneous, especially if a favourable opinion has been given, and an unfavourable event ensued. It ought to be remembered that even in health, day by day, sudden changes to severe and dangerous illness, or to sudden death, are not unfrequent; and if in health, how much more in illness; changes, which it is impossible for the most skilful and observant to foresee. Again, a medical man is often most undeservedly censured in another way. A case is perhaps submitted to his examination at an early stage, before its more marked characteristics have shown themselves, and he perhaps gives an encouraging opinion; after a time, the case gets worse, more serious symptoms are developed, another opinion is taken, and this time the sentence of the first consulted is reversed; the last given prognosis proves correct, and, too often, without reflecting upon the altered aspect of the case in the one and in the other examination, the gentleman first consulted falls under the unjust imputations of those connected with the patient. The case is a common one.

The habit of giving a favourable prognosis when not justified by the state of the case, cannot be too strongly condemned. It is often practised with a view to sustain the spirits of the patient and others; but whilst every reasonable cheerful hope is to be held out, if death *must* close the case, for the sake of higher considerations than those of this world, for the sake of sparing the aggravated shock which *must* fall upon relatives when the fatal truth in all its intensity, and all its nearness, falls upon them, a tempered it may be, but yet a true prognosis should be given.

Refer to — *Death* — *Diagnosis* — *Opinion, Medical.*

PROLAPSUS—is a slipping or falling down of any internal portion of the body, so that it appears externally. The term is most commonly used with reference to prolapsus, "falling down" of the womb—see *Womb, &c.*—and also to prolapsus of the lower gut at the fundament, "coming down of the bowel," as it is often called. This accident is not uncommon in childhood, and in the aged, but occurs at any age, frequently in connexion with piles. Coming down of the bowel often happens from children being permitted to sit too long on the chamber vessel, after a movement of the bowels; it is often, too, a consequence of irritation from worms, or from stone in the bladder. The extent to which the gut is protruded, varies from the slightest possible, to a considerable length, causing a red or purplish swelling, according to the length of time the protrusion has existed.

If quickly attended to, the protrusion is usually easily returned by pressure exerted by the fingers through the medium of a piece of greased cloth, the person being of course laid in the horizontal posture; if, however, the protrusion has been neglected, and allowed to continue unreduced for some hours, it becomes in a measure strangulated, congested with blood, and consequently swollen, and is then sometimes very difficult to return; in such a case a medical man will probably be required, and, indeed, ought to be called; in the meanwhile, by gently squeezing the neck of the protrusion, and exerting gentle pressure upwards, having previously freely applied grease of some kind to it, efforts may be made to effect its return. When protrusion of the gut occurs habitually, a medical man should investigate the cause, so that any source of irritation may be removed; the bowels should be kept perfectly lax, so as to prevent straining, and in children, especially, too long sitting at stool prevented, the seat being made so high that the legs cannot touch the ground.

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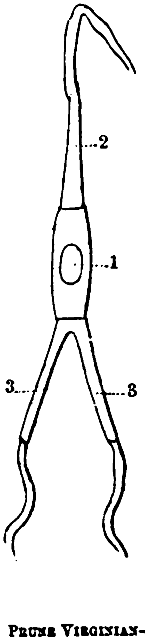
* As every week, almost, sees new improvements brought forward in the construction of these disposers of excretions, it is difficult to recommend any very specially and particularly.

Cold injections, and astringent lotions injected into the bowel are often useful. As recommended by Mr. Vincent, a small quantity of a solution of one grain of sulphate of iron to the ounce of rain or distilled water, may be thrown into the bowel after each relief, and *retained*. Bathing the loins regularly with cold water will be of service.

A



Some cases of protrusion depend on causes such as internal piles, which require a surgical operation for their removal. Persons liable to prolapsus of the gut, often experience much comfort from wearing the form of bandage—fig. A. This consists of a sponge—which must be moistened—or of some soft or *smooth* hard material, which is applied to the fundament, and kept in place by means of straps, which are best made of elastic material; the strap—2—fastening behind and—8—3—in front, to a belt passed round the body. A bandage something similar to fig 1—article *Bandage*—will, with the requisite pad, answer the purpose.

Refer to—*Piles—Rectum*, &c.

PROSTATE GLAND. — See *Bladder*.

PROTEINE.—A name given to the supposed basic constituent of the animal principles—albumen, fibrine, and caseine—much controversy has taken place respecting it

PROTRUSION of various portions of the body may take place either through natural or artificial openings.—See *Prolapsus—Rupture, &c.*

PROUD FLESH. — See *Granulation—Ulcer, &c.*

PROXIMATE CAUSE, in medicine, is the most immediately traceable cause of the symptoms of a disease; thus, in British cholera, the proximate cause of the vomiting and purging is the irruption of acrid bile in undue quantity into the stomach and bowels; the remote cause is that which gives origin to the superabundance and acridity of the bile, probably excess of carbonaceous compounds in the blood.

PRUNES,—the dried fruit of the common plum, contain a considerable quantity of sugar, and when cooked, as stewed, are wholesome, and at the same time laxative. —See *Purgatives*. Unless softened by stewing, prunes are indigestible.*

PRURIGO.—A papular affection of the skin, attended with troublesome itching.—See *Skin*.

PRURITUS.—Itching of the skin.—See *Skin*.

PRUSSIC ACID, or HYDROCYANIC ACID, exists in the distilled waters, principally of the peach tribe, as of the bitter almond; but is usually formed artificially. It is a compound of the three elementary gases, nitrogen, hydrogen, and carbon. Although called an acid, its acid properties are but feebly developed. The odour of hydrocyanic acid is powerful and peculiar, and pungent to the nostrils; it is often compared to that of the bitter almond. Pure prussic acid is sometimes prepared, but quickly decomposes; it is usually met with is a diluted form, and that which is used in medicine is, or ought to be, made of a certain regular strength. The uses of medicinal prussic acid in the hands of a medical man are most valuable; it acts as a powerful sedative, allaying pain, sickness, and nervous irritability; it is, too, a most admirable addition to lotions for various purposes; but in any form could not safely be had recourse to as a domestic remedy. Poisoning by prussic acid is, unfortunately, not of rare occurrence, and, in most cases, it destroys life so rapidly, that little if any time is afforded for the employment of antidotes, at least, by a medical man; it is, therefore, important that the best remedies in such cases should be immediately had recourse to, although too often, from the powerful nature of the poison and the quantity swallowed, all is in vain.

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* PRUNE VIRGINIAN—The bark is used in the treatment of Intermittent Fevers.

When a large dose of prussic acid has been swallowed, "the symptoms may commence in the act of swallowing, or within a few seconds. It is rare that their appearance is delayed beyond one or two minutes. When the patient has been seen at this period he has been perfectly insensible; there is convulsive respiration at long intervals, and he appears dead in the intermediate time. The breath commonly exhales a strong odour of the acid. The finger nails have been found of a livid colour, and the hands firmly clenched. When a small over-dose has been taken, the individual has first experienced weight and pain in the head with confusion of intellect, nausea, and a quick pulse; although these symptoms are sometimes slow in appearing. It has been stated, that those who die from a large dose of this poison uttered a shriek or scream—the fact is very doubtful."*

Many antidotes have been proposed for employment in cases of poisoning by prussic acid, but few of them are likely to be available in so sudden, and, generally, so unlooked for an emergency. The cold affusion—that is, water as cold as it can be procured—dashed freely over the body, the head and spine especially, is a remedy generally available. Ammonia, either in the form of sal volatile, or hartshorn, &c., is to be given and its vapour inhaled; or better still, but not so likely to be at hand, chlorine in some form. Thirty drops of the solution of chloride of lime, or of chloride of soda, may be given at once in a little water, their vapour being at the same time inhaled; this may be more abundantly evoked by the addition of an acid. Artificial respiration—see *Opium*—should be had recourse to, and galvanism, if available. To repeat: The best antidotes are—cold affusions; chlorine, swallowed, and in vapour; ammonia, swallowed, and in vapour; artificial respiration.

PSOAS.—Belonging to the loins. The psoæ muscles are large muscles connected with the loins, &c. A psoas abscess is one originating in the loins.

Refer to—*Lumbar.*

PSORA.—The itch.

PSORIASIS.—A peculiar disease of the skin.—See *Skin.*

PTISAN, or Tisane.—A vegetable infusion or decoction, generally of a mucilaginous character, which may be drank freely by, and is given freely to the sick. Barley-water is a ptisan. Ptisans are extensively used in France, and in many different forms.†

PTYALISM.—The affection of the constitution by mercury.—See *Mercury.*

PUBERTY—is that important transition epoch in human life, when childhood passes into youth, the forerunner of manhood and womanhood. In English law, the time of puberty is considered in the male to be at fourteen years of age, in the female, two years later; but these periods must be generally considered quite sufficiently early, as regards this latitude at least; in warmer climates the period of puberty probably arrives a little sooner, but not so much so as generally has been imagined; more depending upon the natural constitution of the individual, and upon the influence of external circumstances. The important changes and excitements undergone by the constitution at the period of puberty, necessarily render it a critical period, when disease, to which a latent tendency exists, may be roused into activity. At this time, therefore, a stricter watch than usual should be kept upon the health of the young, and any unusual symptoms at once submitted to the judgment of a medical man.—See *Menstruation.*

PUDDINGS—are articles of diet, the principal ingredient of which is some farinaceous material, at least such ought to be the case, when they are made for invalids. The puddings most generally admissible, and best adapted for the sick room, are the light egg and flour, or "twenty minute" pudding, as it is often called; the simple rice, sago, or tapioca pudding, the boiled bread pudding, &c. In making baked puddings, the eggs are generally put in previous to baking, and in general cookery this may answer very well; but when nutriment, and at the same time extreme lightness, are requisites for an invalid, it is better to cook the farinaceous article, such as sago, bread, or whatever it may be, thoroughly in the milk, and whilst it is perfectly hot, to break the egg into it, and beat them well up together; in this way the egg is quite sufficiently cooked, but its albumen is not hardened, as it must inevitably be, when baked along with the other materials.

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* Taylor's *Jurisprudence.*

† Refer to—Drinks.

Of course, greasy puddings generally, are unsuited for invalids, and for the same reasons, butter or sauce must be forbidden.

PUERPERAL.—Connected with child-bed.—See *Child-bed.*

PULMONARY.—Connected with the lungs.

PULSE.—The term pulse may be applied to the beating of the heart and arteries generally, but it is more usually restricted to the sensible beat or stroke of an artery which is felt by the finger placed over and slightly pressed upon the vessel; popularly, the pulse is considered to be confined to the wrist alone. The pulse or beat of an artery is felt simultaneous, or nearly so, with the beat of the heart, which takes place as each contraction of that organ sends a wave of blood through the arteries; the elasticity and muscular properties of those tubes, influencing in a considerable degree the "character" of the pulse.—See *Artery—Circulation—Heart, &c.*

The sympathetic connection of the central organ of the circulation, and indeed of the circulating system at large, with changes and states of the whole system, render the pulse a most important guide in the investigation of those states and changes; it is, however, a guide which it requires much education and no little practical experience fully to take advantage of. It may have appeared to some, that throughout this work generally, when different diseases have been treated of, the state of the pulse has been comparatively little noticed; the previous sentence affords the explanation, which is, that to feel a pulse properly, and to gather from the feeling, any real, definite, trustworthy information, requires more practical knowledge than unprofessional persons can possess; consequently, the author has preferred directing attention, in most instances, to symptoms more palpable, more easily appreciated, and less likely to mislead the uninitiated. If the frequency of the beats of the pulse was an unvarying indication of the state of the system, and if the knowledge as to frequency, or the reverse, was all that could be gathered from feeling it, the case would be abundantly different; but with certain reservation, the frequency of the pulse is, in many cases, a far less important piece of information to a medical man than its rythm or tone; whether it be full and bounding or jerking, or soft, or wiry, or compressible, feeble, or remittent, or intermittent, all these and other varieties of pulse convey impression to the mind of a medical man, but the ability to receive these impressions, and to form conclusions from them, is only the result of daily, almost hourly practice. It is unnecessary to say more, to show how very slight and imperfect the information must be which a casual feeler of the pulse can gather from the operation. At the same time, the author would not discourage persons, such as the clergyman or the intelligent emigrant, from endeavouring to gain some practical knowledge respecting the pulse; but the above will show, that useful knowledge must be attained, either assisted, or unassisted, by practical attention and persevering availment of opportunities.

The average pulse of a healthy man in the prime of life, may be taken as beating 72 times in the minute; but from this average, there is every possible variation, and even in the same individual, the pulse varies greatly, according to the period of the twenty-four hours; according to the time of meals; to the posture, whether recumbent, in which it is slowest, or sitting or standing, in which it is most frequent; it varies also according to physical exercise or mental emotion, and also according to external temperature.

In some persons the pulse is always quick, ranging at 90, or even more; in others it is slow, perhaps does not exceed 40 beats in the minute. Age influences greatly the frequency of the pulse. The following is the table drawn up by M. Quetelet:—

Age.	Average of Pulsations per minute.
Birth	136
5 years	88
10—15	78
15—20	69
20—25	69
25—30	71
30—50	70

According to other observations, the pulse in many children is found not to be more frequent than it is in adults; as a general rule, however, it is so. It is, moreover, a generally received opinion, that the pulse of the aged is slower than that of the young; the reverse is the fact.

As a general rule, when the system at large is in a state of excitement, fever or otherwise, the pulse is increased in frequency, and modified; in depressed states of the system, unless accompanied with irritability, the contrary takes place. In affections of the brain, causing pressure on or oppression of that organ, the pulse is usually slow. If a particular portion of the body be inflamed, such as the hand or foot, the pulse in the artery going to the part is increased in force, or in the power of its beat, but of course not in frequency, unless the entire circulating system is equally excited.

Most are aware that the pulse is distinguishable at the wrist, about an inch above the wrist-joint of the thumb, the pulsating artery lying by the side of the strong tendon of a muscle of the fore-arm. The pulse is felt by the fore and middle finger together. Refer to—*Artery—Circulation—Heart, &c.*

PUMPS—for water—when made of lead, are apt to prove dangerous.—See *Lead—Water, &c.*

PUMP, STOMACH—is an instrument made on the principle of the enema instrument.—See *Clyster*, fig. A. It ought only to be used by a medical man.

PUMPKIN.—At one of the late meetings of the Medical Society of Bordeaux, M. Brunet communicated to the society several cases of tape-worm, where he had succeeded in causing the expulsion of the parasite by means of a paste made of pumpkin seeds, stating that he had been told of the remedy by the captain of a ship. Since that period, an article published in the journal *Universel* of 1820 was discovered, where M. Mongeny, a physician of the island of Cuba, says:—"I used to give to patients affected with tape-worm three ounces of a paste made with fresh pumpkin seeds, and afterwards six ounces of honey, in three doses, the first an hour after the ingestion of the paste, and the others at the same intervals. Six or seven hours afterwards, the tape-worm was generally expelled: and this remedy has succeeded in cases which had resisted all the means generally employed. The worm is rejected, not in fragments, but twisted upon himself; and where two parasites had existed, they were wholly and simultaneously voided.'"[*]

PUNCTURED WOUNDS.—See *Wounds.*

PUPIL.—See *Eye.*

PURGATIVES — are medicinal substances which excite and accelerate the muscular movements of the alimentary canal, and increase the discharge therefrom. For the sake of convenience, under the head of purgatives, aperients generally are treated of—these are divided into

Laxatives—Purgatives—Drastic Cathartics. A further class of "hydragogue" cathartics is also recognized. See *Hydragogue.* Laxatives, which gently increase the natural movements of the bowels may be arranged as dietetic, mechanical, and medicinal. Dietetic laxatives are chiefly vegetables and fruits of various kinds, honey, treacle, preparations of the grains, cold water, malt liquors, bacon, &c. &c., but many of these act mechanically also. Most succulent vegetables and fruits act upon the bowels by virtue of their peculiar nature, but, undoubtedly, also by the mechanical bulk of their refuse. Of the mixed dietetic and mechanical laxatives, the farinacea or grain substances are the most important; these owe their property entirely to the presence, either whole or ground, of the external covering or testa of the grain, as in the case of bran bread, or of Scotch oatmeal. The flour of the Egyptian lentil, or Revalenta Arabica, is almost medicinal in its power of relaxing the bowels. The seeded fruits, such as currants, gooseberries, &c., fall under the head of mixed dietetic and mechanical laxatives.

The purely mechanical aperients are not numerous; whole mustard-seed, and the common dried currant, as it is often given domestically, are examples of the class.

Clysters may be classed under the head either of purely mechanical or of medicinal aperients, according to their nature.—See *Clyster.* The following table includes the principal aperient and purgative medicines which may be used domestically:—

I. LAXATIVES.
- Almond-oil.
- Cassia pulp.
- Cream of tartar.
- Honey.
- Magnesia.
- Manna.
- Olive-oil.
- Phosphate of soda.
- Prunes.
- Sulphur.
- Tamarinds.

II. PURGATIVES.
- Aloes.
- Castor-oil.
- Epsom salts.
- Glauber Salts.
- Jalap.
- Mercurials { Blue pill, Calomel., Grey powder.
- Rhubarb.
- Rochelle Salt.
- Senna.

III. CATHARTICS—DRASTIC.
- Colocynth.
- [†]Scammony.

The two cathartics put down may be used domestically,—indeed, the first is every day used—in the form of the compound colocynth pill. Croton-oil, elaterium, gamboge, are included in the drastic cathartics; but, except under peculiar circumstances, ought only to be administered by a medical man. For details respecting the various aperient agents above mentioned, the reader is referred to the individual articles.

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[*] Extracted from *Lancet*, July 10, 1852.

[†] PODOPHYLLINE—see Appendix.

Purgative or Aperient Medicines are, unquestionably, much more generally had recourse to, both by medical men and the public, than any other form of remedial agents, but while it is undoubted that their use is great, it is also certain, that they are and have been very greatly abused. It is intended to consider, first, the use of aperients, and secondly, the abuse. Under such articles as "Alimentary Canal," "Digestion," &c., it has been sufficiently explained, how the food mass, after undergoing its principal digestion in the stomach, is gradually propelled through the entire tract of the bowels, and how, during this propulsion, its nutrient constituents are absorbed from it, the refuse being left for discharge; it has also been explained, that the discharge from the bowels does not consist, simply of the food refuse, but contains also various secretions and excretions, thrown out into the bowels—from the general system—which excretions cannot be retained in the system without injury to health.

From these considerations, it must be obvious to all, how great the importance, not only that the bowels should be active as regards the excretions into them, but as regards their own discharge, both of these excretions, and of the food refuse. When the bowels are inactive in these respects, the state is termed constipation, or costiveness. As, under the latter term, the reader will find the evils which result from this condition, and also its most frequent causes, &c., sufficiently explicitly stated, it is unnecessary to repeat the information here. Under the same article, will be found an explanation of those general remedies which are most useful in removing the condition; and, indeed, when they prove sufficient, are certainly to be preferred to medicinal agents; when they do not prove sufficient, either as temporary or permanent means of relief, the purgative or aperient medicines must be employed—under the general rule, that they should never be used stronger than requisite. By this, it is not meant, that because manna, or sulphur, or magnesia, are classed in the laxatives, they are always, when possible, to be substituted for the purgative aloes, or castor-oil, or rhubarb, or senna, such a distinction could not be observed without other and greater counter-balancing inconveniences, but the rule should be, that relief to the bowels is to be afforded with as small an amount of purgative action as possible, unless that purgative, or, in other words, lowering action, is called for as a part of the treatment, as it is in persons of very full habit of body, &c.

Where aperient medicines are either taken or given domestically, there is often too little care in the selection: unless it be in pregnancy, or in consequence of individual experience, the idea seems to prevail with many, that one aperient is as good as another—this is far from being the case.

Except in persons whose bowels are very easily acted upon, or in such cases as those where the aperient is taken rather to give additional action than to open the bowels, the "laxative" aperients are scarcely sufficient as general aperients; those classed as purgatives, and the cathartic colocynth, under the form of its well known compound pill, are in daily use.

There are few ailments in which increased action of the bowels is called for, in which, one or other of the aperient remedies in the list will not be applicable. Aloes is valuable for certainty of action on particular portions of the bowels, for the small bulk of its general dose, for its tonic bitterness and continued effect even after frequent repetition, but must be used, carefully, in pregnancy, piles, and other affections situated about the lower part of the canal. Castor-oil is recommended by its safety in almost all cases, by its certain, perfect action, and like aloes, by its not losing effect by repetition; but unfortunately, it is too often the medicine most disliked and sickened at.* Epsom salts require much discretion in use, but have deservedly thrown Glauber salts into disuse. Jalap is certain and active, but is apt to gripe and to sicken, and its bulk is an objection. Mercurials alone, or followed by castor-oil or senna, or combined with aloes, rhubarb, or colocynth, most valuable, are most abused. Rhubarb, mild, and with some persons effectual, is also tonic, but is apt to heat, and its bulk and taste are an objection, especially with children. Rochelle salt, similar to Epsom salt in action, is pleasanter. Senna, *the* medicine of the nursery, is invaluable, if properly prepared, is safe and certain.

Colocynth, in its well known compound pill forms part of the most generally used and useful purgative in costive habits. Scammony is, in many of the affections of children, especially combined with a mercurial, our most valuable purgative, and is recommended by the small bulk of its dose. —See articles on all the above-mentioned.

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* It is one of the greatest desiderata in medicine to obtain a purgative which should combine all the advantages of Castor Oil with a less disagreeable taste, and with less tendency to cause sickness, as well as being less bulky. Any one discovering such a remedy would undoubtedly make a fortune by it. It has been sought for in vain amongst the numerous oils belonging to the same natural family, for although some of them are very good, yet they are uncertain in their action.

Purgatives, however, are used, not only as a means of clearing the bowels of their contents, but also as agents for the relief of those organs, such as the liver, which are closely connected with the bowels; and further, as remedies calculated to relieve distant parts, or the system generally. Thus, in many head affections, free purging is one of our most powerful remedies, in congestion of the liver is most serviceable; in overfulness of the system at large, it relieves greatly. To the above fact, nature strongly points in those cases in which sudden and striking relief often follows an attack of spontaneous purging or diarrhœa.

The abuse of aperient medicines, owes its origin, probably, to a variety of causes. Constipation, either alone, or as a concomitant of disease, is so obvious and common a symptom; it so often occasions distress, or at least uncomfortable sensations, its removal is generally so simply effected, and often is so sensibly felt as a relief, that it cannot be matter of surprise, if both doctor and patient, habitually almost, look to the action of the bowels by purgative medicines, as almost the requisite preliminary to all other treatment, and within certain limits they do right; but the fatal facility of the treatment, assisted moreover by the powerful advocacy which it has received in years gone by, has certainly produced a far too general use of aperients as purgatives; not simply in the treatment of acute disease, but as a general rule of daily life. If the question be put: Which is the greater evil of the two, to have the bowels habitually confined, or habitually to take aperient medicines? there can be no question, if the choice *must* lie between the two evils that the latter is the lesser one; but there are few cases in which the choice is so circumscribed. The bowels, probably, are confined, but they are so because the general conditions requisite for their healthy action—see *Costiveness*—are neglected, and because the aperient *medicine* is used as the readiest substitute for a little trouble and perseverance. Thus used, the aperient is abused, and injury, more or less, is inflicted upon the system according to the nature of the medicine, the frequency of its use, and the strength of the dose. One most general effect of the abuse of aperients, is the weakened digestive power of the stomach, another the weakness of the system at large; and a third, not unfrequently, is continued irritation of some portion of the alimentary canal. The weakened digestion which follows the abuse of aperients may not be obvious at first; indeed, if the digestive organs have been overloaded and oppressed, instead of being weaker after an aperient they are actually more active, and this apparent increase of activity is very apt to lead to a too frequent renewal of the remedy, and too often—trusting in the remedy—to a continuance of those habits of excess which caused the first disorder.—See *Indigestion.*[*] The debility of the system which follows the abuse of aperients, is the natural result of the digested food mass being hurried too rapidly through the bowels to admit of its nutrient portion being taken up and conveyed into the system; debility is also the result of the too frequent employment of purgatives, such as the salines, which increase, unnecessarily, the discharges —especially of the serous portion of the blood—into the bowels. Further, the too frequent use of purgatives irritates the bowels by depriving them of their natural protective mucus, in this way ulceration may result.

As a natural consequence of the food mass and of the secretions and excretions, such as the bile, being hurried too quickly into and through the bowels, and also of the mucus being carried off too abundantly, the stools, under the continued use of purgatives, assume an unhealthy character; perhaps contain too much bile, &c., and in consequence of this unhealthy appearance, and with a view to its correction, persons are too often induced to continue the very cause of its production, and go on purging. This is a very common case.

In connection with the foregoing article, the reader is referred to *Alimentary Canal—Biliary Disorder—Digestion—Indigestion—Costiveness, &c.*

PURGING FLAX.—the *Linum Catharticum*—deserves especial notice from the fact of its being a plant commonly native to this country, and often used as a domestic remedy, although not generally prescribed by medical men, not, indeed, as much so as it might be, for the report of it is that of an "excellent cathartic." The purging flax is a slender plant, about six or eight inches in height, with smooth narrow leaves placed opposite upon the stem; it blossoms about the end of June, and the flowers, which are small and white, are "gracefully drooping before expansion." Every part of the plant is bitter. One drachm of the dry powdered leaves, or two to three drachms of the fresh plant, in the form of infusion, will, according to Dr. Christison, act briskly upon the bowels, without causing either sickness or griping.

PURPURA—popularly "The Purples'—is a disease in which the blood escapes from the smaller or capillary vessels; it is best known from its outward manifestations on the skin, on which account it is often but erroneously classed as a skin disease, whereas it is truly a constitutional affection, which, although most visibly manifest on the skin, yet exhibits its effects in various internal portions of the body. The attack of purpura may be sudden, or it may be preceded for a week or more by symptoms of general illness, lassitude, feebleness, &c. Purpura generally first shows itself on the legs, in the form of red or purple spots, of various sizes, which do not elevate the skin, and do not disappear on pressure; in the course of a few days, these spots become changed to a brown or greenish yellow; in fact, they go through the same changes in colour that we see in a bruise, in which, as in purpura, effusion of blood has taken place beneath the skin. The above description applies to purpura in perhaps its mildest form; when more severe, the spots or blotches are spread over the body, and blood is discharged from the mucous membranes of the nose, mouth, stomach, bowels, bladder,[*] &c., constituting a most fatal affection, which may occur either alone, or in connexion with other diseases, such as fever, measles, small-pox, &c. Such a disease as purpura is of course not one for domestic management, and ought, if possible, on its earliest appearance, to be confided to proper medical care. It *may* occur in the strong and plethoric, in which case, of course, lowering measures, perhaps bleeding, may be called for, or at least free purging, with calomel and jalap, or calomel and colocynth; the administration, two or three times a day, of one or two drachms of Epsom salts, dissolved in water, each dose being acidulated with fifteen drops of diluted sulphuric acid, would be very suitable treatment.

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[*] See also foot-note, article—Pills.

Most frequently, purpura is a disease of debility, and requires treatment the very reverse of lowering; quinine, in grain doses, three or four times in the twenty-four hours, will be useful, along with strong animal broths, wine, or porter, and tonic remedial measures generally. Turpentine, in ten or fifteen drop doses, given three or four times in the twenty-four hours, has proved an invaluable remedy. Having been found useful in different species of hemorrhage, the juice of the common nettle might, in places where other remedies are not procurable, prove of service.

Where the tendency to purpura exists, with debility, means of strengthening should be resorted to which have been recommended under article—*Debility*. In every case, however, whether threatened or actual, a medical man must be called without delay.

PURULENT — consisting of pus or matter.—See *Pus*.

PUS, or MATTER—is, or rather ought to be, a smooth, yellow, cream-like fluid; when warm it exhales a faint sickly odour. Under the microscope, pus is seen to consist of granules—somewhat larger than the globules of the blood—which float in a transparent serous fluid. The above are the properties of healthy pus, which, however, may differ very greatly from the standard; it may be thin, and serous, or flaky as it is in a scrofulous abscess; it may be bloody, it may be fetid, &c. Pus is a consequent of inflammation, its formation is, in fact, the "termination" of that process by "suppuration" —see *Inflammation*—and may be formed in various situations and textures. It is the most general secretion from an ulcer. When contained in a cavity formed in the substance of any of the bodily tissues, it constitutes an abscess; it is a frequent consequence of inflammation, either of mucous or of serous membranes, in the one case constituting a purulent discharge, in the other, a purulent effusion, such as takes place into the chest. In some cases, it is extremely difficult to distinguish the mucous, purulent, and muco-purulent discharges from mucous membranes, from one another. Less importance is now attached to the distinction than formerly.

Refer to—*Abscess*—*Inflammation*—*Ulceration*.

PUSTULES — are elevations on, and partly in the skin, which contain matter. A pustule may commence as such, when it is usually conical in shape, or it may commence as a vesicle, as in the cases of small-pox or cow-pox; the vesicle, in the first place, containing transparent lymph or fluid, and its contents afterwards becoming purulent, constituting it a pustule.

Refer to—*Skin, Diseases of*.

PUTREFACTION, or PUTREFACTIVE FERMENTATION—is the peculiar chemical change undergone by many organized bodies after death. The following extracts on this subject from Liebig's "Letters on Chemistry," are full of interest and instruction:—"The proximate cause of these changes, which occur in organized bodies after death, is the action of the oxygen of the air on many of their constituents. This action only takes place when water, that is, moisture, is present, and requires a certain temperature. This influence of atmospheric oxygen is very distinctly seen in fruits and other soft parts of vegetables, when, by an injury to their surface, the juice comes into direct contact with the air. When an apple is bruised at one point, a process of decomposition begins from the injured part; a brown spot appears, which increases in a regular concentric circle, till at last the whole apple becomes rotten, or is changed into a brown, soft, viscid mass." "In like manner, a process of decomposition sets in, after death, in the bodies of men and animals, which begins in the inside, in those parts; such as the lungs, which are in contact with the air. When there are wounds, it spreads from them, and in diseases from the diseased part; so that, in many cases, death itself is nothing else than the result of a decomposition going on in an inward part; with the disease, of which it is the proximate cause, this process begins, and it continues after death. The most remarkable of these phenomena is certainly this, that in many cases, the change once begun in organic matters, continues when, after transient contact with the air, the atmospheric oxygen is entirely excluded." "All these processes of decomposition which begin in a part of an organic substance, from the application of an external cause, and which spread through the whole mass, with or without the co-operation of that cause, have been called the processes of putrefaction." "The number of substances occurring in nature, which are truly putrescible—that is, capable of putrefaction—is singularly small; but they are everywhere diffused, and form part of every organized being. Before all other substances, this property of putrescibility belongs to the highly complex matters of the animal and vegetable kingdoms, which contain nitrogen and sulphur; such as albumen, fibrine, caseine, gelatine, and the like." One of the most remarkable properties of putrescible substances, is their power of exciting fermentation in bodies capable of this change. —See *Fermentation.*

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[*] In severe and fatal cases, blood has been found effused into the substance of the brain.

"The grand natural process of putrefaction, of the dissolution of all compounds formed in living organisms, begins immediately after death, when the manifold causes no longer act, under the influence of which they were produced. The compounds formed in the bodies of animals and of plants undergo, in the air, and with the aid of moisture, a series of changes, the last of which are the conversion of their carbon into carbonic acid, of their hydrogen into water, of their nitrogen into ammonia, of their sulphur into sulphuric acid. Thus their elements resume the forms in which they can again serve as food to a new generation of plants and animals. Those elements which had been derived from the atmosphere take the gaseous form and return to the air; those which the earth had yielded, return to the soil. Death, followed by the dissolution of the dead generation, is the source (medium?) of life for a new one. The same atom of carbon, which, as a constituent of a muscular fibre in the heart of a man, assists to propel the blood through his frame, was, perhaps, a constituent of the heart of one of his ancestors; and any atom of nitrogen in our brain has, perhaps, been a part of the brain of an Egyptian or a negro. As the intellect of the men of this generation draws the food required for its development and cultivation from the products of the intellectual activity of former times, so may the constituents or elements of the bodies of a former generation pass into and become parts of our own frames.

"Finally, by a knowledge of the causes of the origin and propagation of putrefaction in organic atoms, the question concerning the nature of many contagions and miasms becomes capable of a simple solution, and may be reduced to the following:—

"Are there facts which prove that certain states of transformation or putrefaction in a substance, are likewise propagated to parts or constituents of the living animal body; that, by contact with the putrescent matter, the same or a similar condition is produced on such parts as that in which the particles of the putrescent body are? This question must be decidedly answered in the affirmative.

"It is a fact that dead bodies in dissecting rooms frequently pass into a state of decomposition, which is communicated to the blood in the living body. The slightest cuts with the scalpel used in dissecting often cause a very dangerous, and even fatal disease. The observation of Magendie, that putrid blood, brain, bile or pus, when laid on fresh wounds, produce in animals, vomiting, languor, and death, after a longer or shorter interval, has not yet been contradicted.

"Further, it is a fact, that the use of various articles of food, such as flesh, ham, sausages, if in a certain state of decomposition, is followed in healthy persons by the most dangerous and even fatal symptoms.

"These facts prove that animal matter, in a certain state of decomposition, is capable of exciting a morbid action in the body of healthy individuals. Now, since by the term products of diseased action, nothing else can be meant than parts or constituents of the living body, which are in a state of change, in form and quality different from the normal one, it is evident, that so long as this state continues, and the change is not completed, the disease may be communicated to a second or third individual, and so on.

“Besides, when we consider, that all those substances which destroy the communicability or arrest the propagation of contagions and miasms, are likewise such as arrest all processes of putrefaction or fermentation; that under the influence of empyreumatic bodies, such as pyroligneous acid, which powerfully oppose putrefaction, the diseased action in malignant suppurating wounds is entirely changed; that in a number of contagious diseases, especially in typhus, ammonia, free or combined, is found in the expired air, in the liquid and solid excreta—in the latter as ammonio phosphate of magnesia—it seems impossible any longer to entertain a doubt as to the origin and propagation of many contagious diseases.

“Finally, it is an observation universally made, and which may be regarded as established, that the origin of epidemic diseases may often be referred to the putrefaction of great masses of animal and vegetable matters; that miasmic diseases are found epidemic, where decomposition of organic substances constantly goes on in marshy and damp districts. These diseases also become epidemic, under the same circumstances, after inundations; and also in places where a large number of persons are crowded together with imperfect ventilation, as in ships, in prisons, and in besieged fortresses. But in no case may we so securely reckon on the occurrence of epidemic diseases, as when a marshy surface has been dried up by continued heat, or when extensive inundations are followed by intense heat.”

In connection with the above, the following instructive anecdote is related in the appendix to the publication from which the foregoing extracts are taken:—

“In order to procure a roast for Easter, C—, in R—, desired his family to set a snare for a roebuck. Accordingly, one of these poor animals was caught in the snare, which, as its head and breast had passed through, held it by the hinder part of the body, the abdomen and pelvis being enclosed in the cord, so that it must have succumbed after a most agonising struggle. It was found next day dead.”

“The master and mistress of the family eat on Easter-day the best part of the dainty; the servants had little; the remainder was laid in vinegar, but not eaten.

“On the same day, all in the family who had eaten of the venison observed a striking dryness of the mouth, oppression at t stomach, and nausea; the features in became anxious and pale; all complain of oppression of the head, giddiness, a great weariness of the limbs. The mast lost his sight for several days, and in sh there now began a series of remarka symptoms, requiring in many ways t assistance of a medical man. The husba was only restored to health in July, b the wife never recovered: she linger more than two years, and at last died af severe sufferings. The daughter, the ma servant, the maid, who had eaten little the tortured animal, were soon cured. T symptoms in many respects recalled tho of the effects of the bite of rabid anima and of the sausage poison of Wirtemburg

With respect to that theory which regar the putrefaction of animal matters, as pr duced by microscopic animalculæ, Lieb remarks: “To ascribe putrefaction to t presence of animalculæ, is as irration as it would be to ascribe to the beetl whose food is derived from animal excret or to the mites in cheese, the state of d composition of the excreta or of the chees The presence of animalculæ, which a often found in prodigious numbers in p trefying matters, cannot, in itself, be co sidered wonderful, since these animals fi there the conditions of their nutrition a development combined. It is quite certai however, that in their presence putrefacti is exceedingly accelerated. Their nutriti presupposes the consumption of particl of the putrefying body for their own d velopment. Its more rapid destructi must be the necessary consequence.”

The extreme interest and importan which surround the processes of putref tion, must be the apology for the lengt of the above extracts on the subject, fro perhaps the first living authority on thes matters. Whether we regard putrefactio in a sanitary or hygienic point of view, a the originator of disease, when *favoured b* *man's ignorance or carelessness*, or as th process by which the material atoms of generation which has passed away, ar again started on their mission to furnis material clothing for a generation living o to live, our attention is alike deserved.

Refer to—*Fermentation, &c.*

PYLORUS.—See *Alimentary Canal—Stomach.*

PYROLIGNEOUS ACID—is acetic acid obtained by the “destructive distillation” of wood.

Refer to—*Acetic Acid.*

PYROSIS.—See *Water-brash.*

QUACK,*QUACKERY, AND QUACK MEDICINES.—The origin of the term quack is doubtful; it is sometimes derived from "quack salber," the German for quicksilver, or mercury, which was first used by irregular practitioners. However that may be, the terms "quack" and "quackery" are not now confined to medical matters, but are applied generally, to those who pretend to exercise functions of which they are incapable, and who support their pretensions with deceit, and generally with impudence.

History has proved, and facts of the present day testify, that of all the openings for deception and chicanery in connexion with the dealings of man with man, medicine opens one of the widest.

In former times, when even the learned entertained most crude and erroneous ideas of much of the structure, and of most of the functions of the living body, and when the mass of the people were in the most perfect ignorance on these points; when, moreover, superstition was rife, when charms and king's touches were trusted to cure disease, when occult virtues, dependent upon all sorts of fancied and fanciful conditions and circumstances, were considered to be active or not according to the observance of these conditions and circumstances; when, it is observed, these things prevailed, it cannot perhaps be matter of surprise, that people believed the man who could lie most glibly, and who held out the most specious promises, in connexion with that dearest possession of man—dearest, at least, when lost—his health. The most natural thing for ignorance and superstition was, to believe the tricked out mystery. But is it natural, or rather reasonable, that the foolish belief in mysterious cures and quack panaceas, should still prevail at the present day, and that the most notorious quacks should amass immense fortunes, simply by gulling the many foolish? Reasonable or not, the fact is incontrovertible; reasonable or not, it is to be accounted for by the almost perfect ignorance which still prevails, *even amongst the most educated classes*, of the structure and functions of their own frames, of the requirements of their own constitutions, and of the true principles on which the latter are to be preserved in soundness and health, or to be treated when afflicted with disease. Moreover, the principles of health, in health, also extend, or ought to extend, to the management of illness, when health is sought to be restored. These principles are too frequently dwelt upon in the various sanitary articles in this work, to require reiteration here, but, it is once more repeated, they ought to be part of the education of all. The diffusion of such knowledge will, and can, put an end to quackery; and yet the diffusion of such knowledge is dreaded and condemned even by some medical men, who seek legal enactments against the irregular practitioner and his practices, in the vain idea that these will prevent the credulous and ignorant, from resorting to the man who lies most to their ignorance, or flatters their blind prejudices most unscrupulously.

Quacks, generally, may be divided into those who quack for profit, and those who are merely amateurs, the latter class including the Lady Bountifuls and others, who, not content, with using such simple means of alleviating disease or suffering, amid their neighbours, as can be safely employed, must, *without necessity*, get handling such edged tools as antimony, calomel, &c., &c., and with considerable vigour too, very often, without having given themselves much trouble to get any idea of the proper mode of, and reasons for the administration of what they prescribe—such practices cannot be too strongly condemned. When such a combination of circumstances occurs, that the *immediate* care of dangerous accident or illness, devolves upon some intelligent or responsible individual, in the absence of, or at least until the arrival of a medical man, it is quite admissible to use even active measures, such as are often recommended in the present work, if proper precaution be observed; but this is very different from persons, without necessity, and for the mere love of amateur quackery, taking upon themselves the management of cases of serious disease. "Without entering upon that difficult ground which correct professional knowledge, and educated judgment, can alone permit to be safely trodden, there is a wide and extensive field for exertion, and for usefulness, open to the unprofessional, in the kindly offices of a true domestic medicine, and in the timely help and solace of a simple household surgery."

"But when it is remembered, how the nicest judgment that observation and experience can form, the most patient attention, aided by practised ear and eye, by microscope and test tube, are frequently necessary, to enable the conscientious physician to judge of his case before he can apply the remedy, it is evident how great must be the responsibility of those who, in rashness or ignorance, venture upon the treatment of serious disease, either in their own persons or in those of others; incapable of judging of its nature, still less capable are they of selecting the appropriate treatment. There is, however, a vast difference between the management of real disease, and of ordinary ailment—between endeavouring to strike at the root, or only to relieve the symptoms. Any unprofessional man, or woman either, in this kingdom, who, with all the facility that there is for procuring skilled advice, ventures to take the medical management of a case of real illness, acts most unwarrantably. Still less justifiable is interference, with cases upon which a medical man is already in attendance,—see *Advice, Medical.*

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* See Appendix—Quacks, Advertising.

The quacks, whose sole object is gain, are divisible into those who sell some nostrum, and those who profess to investigate and prescribe for diseases.

The quack medicines sold as such under the seal of Government, are of every variety; some profess to cure everything, and therefore carry absurdity so plainly on the surface, that it is difficult to imagine any persons being sufficiently credulous to employ them; others are more circumscribed in their professions, but yet, as far as they go, are advertised as infallibles. One instance will demonstrate the danger of trusting to them. Under such articles as "Debility," &c., &c., it has been pointed out, that there is a false weakness, to be distinguished from that which is really dependent on actual debility, both being accompanied with languid depression. For such a condition, many quack pills and the like are advertised, they relieve "languor, nervous depression, &c." Such pills are generally powerful purgatives, and by their strong action in this way, perhaps, relieve some individual suffering under the languor of an oppressed system; he is delighted at the change, and meeting his invalid friend, who is suffering from the real debility of incipient consumption, or from some other disease, persuades him to try the wonderful pills, need it be said, with how great probable, perhaps irremediable injury. It would be easy to multiply instances; one is enough.

Of the prescribing quacks, some are so wonderfully skilful as not to require to see their patient; these include the "water doctors"—not the hydropathists, but the "casters" of the urine, those who require merely to see the urine, and therefrom pronounce the verdict of life or death, or send medicines accordingly. The chemical and microscopic examination of the urine is, indeed, to the physician, a most valuable aid in the investigation of disease, when taken in conjunction with the other symptoms of a case; but to imagine that its inspection yield any definite or trustworthy information to the ignorant and illiterate "water caster," ignorant alike of the nature of the secretion from which he or she—for there are female quacks of this kind—professes to deriv information, ignorant of the structure o functions of the animal body, is too absurd In such cases, as, indeed, in those of th prescribing quacks generally, the system o fraud is supported by lying assertions an promises, and by working upon the fears o the unfortunate dupes; this is especiall the case in those who profess the venerea department, and who cannot be too carefully shunned. The most shameful impositions are practised by this description o quack, and the consequences are ver serious. The conduct of newspaper publishers in giving currency to announcement connected with this obscene and disgustin phase of quackery is most reprehensible Some quack-prescribers follow their busines on the strength, real or pretended, of havin received the "receipts," as they are popularly called, of some predecessor, regular o irregular. Even supposing such "receipts" were good for anything, it would be difficul to prove that their possession gave th faculty of applying them; but the fact is, with exception of a few general medicines, such as the common aperient pills, every case of disease, every constitution almost, requires some modification in the medicines prescribed, and the same prescription is no more applicable to three or four different individuals than the same coat would be moreover, almost every case of illness call for changes and modifications of medicine to meet the ever-changing symptoms whic occur, but the quack panacea ignores suc distinction, and professes by its wonderf property of curing at once, to cut the Go dian knot—well if it does not do this b cutting the thread of life at the same time

As it is impossible for any man to trea disease with full advantage unless he has acquired by education a sufficient amount of the very varied knowledge, both theoretical and practical, which is now embraced within the limits of medical science; so, every man who undertakes the treatment of disease as a practitioner, without such knowledge, necessarily falls under the designation of a quack, because he pretends to that which he does not possess—he deceives. It is true, many receive the necessary education, and yet follow out irregular theories and modes of practice; if, in doing so, they do wrong, it is unfortunate, but if the error is followed in sincerity, the follower cannot justly be called a quack. On the other hand, the upholder of the most orthodox medicine, may do so in a quackish manner, if, in his practice, he makes a display of methods, either of investigating or of treating disease, which are not requisite. Such things flourish because ignorance abounds. As any system of medical practice may be converted into one of quackery, so may any medicinal agent, even that which is safest when properly used, become, in the hands of the unprincipled empiric, an agent for evil. In fact, quack medicines generally, are compounds of drugs which are regularly and daily prescribed by medical men; it is not in the composition, but it is in the application of the compound that mischief is done. If it be matter of indifference when a purgative, an anodyne, or any other medicine is taken, what medicine of the class, so as it belongs to the class, is selected; or if it matters not whether its peculiar action is suited to the case and constitution of the patient or not, and if the same doses are suitable for all: then may quack compounds, each professing to do more than another, be permitted, unchallenged, to go forth on their errands of mischief, under the sign and seal of government; but, if a medical adviser requires to investigate his case, to weigh in his own mind the constitution, circumstances, and tendencies of his patient, and finally to select from the stores of his own experience and that of others, the best adapted remedy or remedies, it must be evident to every reflecting mind, either that these latter necessities enjoined upon the man of educated mind and sense, are a tissue of deceptions and shams, or that the whole system of quack medicines *must* be founded upon fraud, and that it flourishes upon credulity which believes specious lies, or puts trust in the easily obtained testimonials of some weak-minded individuals, such as are to be found in all ranks and classes. It is difficult to account for the eager credulity and secure indifference with which, otherwise sensible, persons swallow or use what they believe to be agents capable of acting powerfully upon their own bodies, whilst all they know of these agents is, that they are put forth by persons they know nothing of beyond their advertisements filled with assertions so impudent, or attempts at deception so palpable, that the wonder is they do not defeat their own ends. Perhaps few would be inclined to trust an individual whom they had detected in the attempt to cheat them by offering a forged check, with, perhaps, the precaution taken to place the would-be deceiver out of the reach of the law, by the change of a letter in a name; and yet people are gulled daily by some such devices, and eminent names, with some slight alteration in spelling, are made the attractions by which an unprincipled vendor seeks to puff off his wares. Come from what authority it may, as soon as a medicine, or combination of medicines, is held forth as a "cure," irrespective of contingent circumstances, it becomes a quack medicine; in other words, it becomes a source of danger to some, probably to many. The passion for gambling is a very widely distributed one; and as men will risk their fortunes, their liberty, upon the throw of the dice, so it can only be the same love of hazard, that induces many of them to risk the possibility of injury, against the possible recovery of some of these great goods, those prizes of health, which they have time back thrown away, but which are now held out as the tempting baits of the speculator.

Solomon's Balm of Gilead realized a handsome fortune for its promulgator, of whom the following anecdote is told:—Being asked how it was that people bought his medicine so freely, he replied, "Of ten men who pass my door, nine, at least as far as medicine is concerned, are fools; if you will give me the nine fools for customers, the regular practitioner may keep the one who is wise in these matters."*

In advocating the doctrine that quackery is only to be successfully combatted by imparting to people generally the information necessary to enable them to see through the deceptions of the charlatan, the author does not by any means dissent from the suppression of quackery by the strong arm of the law, *at present*, as a means of protecting the people till they can protect themselves; for, as it must be long before information is sufficiently diffused to effect the end proposed, in the meanwhile, the external guard ought to be substituted, till the dictates of educated intelligence are sufficient for the purpose. Governments ought to protect the poor and ignorant in these matters, instead of throwing the "patent" protection over deleterious compounds, which destroy annually so many of the people. A case in point, of the injurious action of quackery, has come under the author's notice lately. A labouring man, suffering from obscure internal disease, for which he has been treated without relief both in private and in the wards of a general hospital, is induced, by the fair promises and lying opinions of an itinerant quack, to resort to him for advice (?), given, whilst the medicine is paid for at the rate of five shillings a bottle, and *paid for at the time;* at the same time the poor man is applying for parish relief, and his family in want. He is to be cured in three weeks; that is, he is to pay fifteen shillings, and by the time the quack has reaped that amount, got together somehow the patient may open his eyes, if he likes, to the fraud.

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* This celebrated quack medicine, which emptied the pockets and imposed upon the credulity of so many, was said to consist of nothing more than rum and milk.

Refer to—*Medicine, Practice of.*

QUARANTINE—is derived from the Italian word signifying forty; forty days having been the usual space of time that persons or goods coming from places in which infectious disease, or disease thought to be infectious, prevails, or that have been exposed to the influence of any such disease, during a sojourn on board ship. The quarantine or isolation is either "performed" on board the vessel, which none are allowed to leave, or in a building called a "lazzaretto," set apart for the purpose, and cut off from all communication with the surrounding country. There has of late prevailed a strong feeling towards the modification of the laws of quarantine. The term of isolation is often much less than the forty days.

QUARTAN.—A term applied to an ague, the paroxysms of which occur every fourth day.—See *Ague.*

QUASSIA.—The quassia wood is obtained from a tree, native to Jamaica and other West India islands, it is named the "quassia excelsa," from its height, which is often one hundred feet. Quassia wood is usually sold in the form of chips, or raspings, of a lightish yellow colour, it is intensely bitter, and forms a valuable tonic and stomachic remedy. It is best given in infusion, made by infusing two scruples of the raspings in a pint of water for a couple of hours. The dose, one to one and a half fluid ounces, twice daily. The root bark of another species of quassia, or at least what was formerly ranked as a quassia, is also sometimes used in medicine.*

QUICKENING.—See *Pregnancy.*

QUICKLIME.—See *Lime.*

QUICKSILVER.—See *Mercury.*

QUINCE SEEDS—when boiled in water, yield a mucilaginous decoction, which is not, however, in any way superior to other more common preparations. Two drachms of the seeds are ordered to be boiled in two pints of water for ten minutes, and the decoction strained.

QUININE.—See *Bark.*

QUINSEY.—See *Throat, Sore.*

QUOTIDIAN.—A term applied to an ague, the paroxysms of which occur daily.—See *Ague.*

RABIES—as a term, is usually synonymous with hydrophobia or canine madness.—See *Hydrophobia.*

RADISH—the RAPHANUS SATIVUS—like other vegetables which are eaten uncooked, is not suitable for persons of weak digestive powers.

RADIUS.—One of the bones of the fore-arm.—See *Fore-arm.*

RANUNCULUS.—The various species of ranunculus, or "buttercup," so common in this country, are chiefly remarkable for their acridity, as any one may prove wh will chew a small portion of one of th leaves. Their action is emetic, and als when bruised and applied to the skin, irri ting, acting like a mustard-plaster or blist a fact, the knowledge of which might pr useful. These plants completely lose t acridity by drying.

RAISIN.—The dried grape, in which mucilaginous, and perhaps acid constitu of the fresh fruit have been converte grape sugar in the process of dessic Raisins are used in various medicin parations. As an article of diet th unwholesome only if the tough, indi skins are eaten. In the case of c much disorder is frequently cause undigested skins of raisins passing bowels, and lodging in the saccu pouches of the large intestines, w cause much irritation, and prob blesome diarrhœa, which is on when a dose of castor-oil, or of aperient, clears out the offendi lation. Raisin skins may thus bowels for weeks.

RASH—is a popular term on the skin, more especially letina, nettle rash, &c., which either vesicles or pustules.

RASPBERRY—the RUB native of this country, and many situations, especiall amid the stony banks of str berry is one of the most we possess, either in its fr served. In the latter form ful addition to the sick-ro fever, and feverish diseas the acid is not an objecti raspberry-vinegar is bot salutary beverage. W missible, a pleasant dr gling the preserve, or

REACTION—in m ance of the animal causes; a resistance, not only to restore t action, but to go fart action above that le stage of fever, the r a skin hotter than and probably stro effect occurs in rea other causes, such batting, therefor stimulants, the cases, at first seems almost to threaten life, the after reaction must not be lost sight of, and the means of relieving the depression administered with a sparing and judicious hand. When reaction can be procured by the natural powers or resiliance of the system, by external warmth, and by warm, comparatively unstimulating, fluids, such as tea, &c., it is better effected than by the use of more powerful excitants. In some cases, however, the latter are absolutely necessary to preserve life, and then ammonia, in some form, but especially as sal volatile, alcoholic stimuli, such as wine and brandy, and the others, are all powerful promoters of reaction. In some peculiar cases, emetics of mustard, by rousing the system, greatly assist reaction.

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* Drinking cups made of Quassia Wood may be had at the chemists. T
to the water.—The application of Tincture or Infusion of Quassia to an inc
very recently been promulgated as a certain (?) cure for Asiatic Cholera.
many other "certain" cures we hear of for the disease. It could do no b

† See Appendix—Raspberry Acid.

READING ALOUD — and speaking aloud for a length of time, are wholesome exercises for the strong, but if carried to excess, or even if only practised moderately, may produce in the predisposed injury to the lungs, spitting of blood, or affection of the throat.—See *Clergyman's Sore Throat.* The modification of the respiration and circulation produced by continued loud speaking or reading, is also apt to produce unpleasant symptoms in those predisposed to apoplectic or head affections. The exercise of reading aloud has been recommended as useful in cases of hysteria and nervous disorders.

RECREATION—or the renovation of the powers of body or mind, after they have been exhausted by toil, is one of the highest pleasures enjoyable by man; a real pleasure, because it can only be purchased by those previous exertions, in the performance of which, although they are exertions, man feels that he is fulfilling the ends of his being. Those who live in a constant round of what is called pleasure, the idle, the saunterers after their work, do not know what true recreation is, cannot realize the thorough enjoyment with which the man who works in the true sense of the word, who, "whatever his hand findeth to do," does it "with all his might," throws off his toil, and takes to recreation in the same hearty spirit that he brings to his daily effort, whatever that may be.

Recreation is the enjoyment of man especially, and the higher he rises in the scale of *true* intellectual being, the more thoroughly must he enjoy it, the active pleasurable excitement of both mind and body, in contradistinction to "rest," which is the passive enjoyment of repose after exertion.

The animal enjoys rest, but can scarce be said to enjoy recreation; the man of physical toil enjoys rest, and, if the mind be dull and untutored, finds his chief enjoyment in the intervals of labour, in rest, like the animal; rest, which recruits the physical powers, whilst the mind is comparatively vacant. But when the mind is at all inclined to activity, after the rest which follows action, comes the desire for reaction, for recreation, an active state, more useful in many respects than rest, because it is a state of stimulation, of wholesome excitation, if kept within proper bounds. Such a condition of moderate pleasurable excitement of the mental and physical powers, which act and react on one another, is highly conducive to health, is, in fact, a means of preserving health, to which man, *except in a very artificial state*, is periodically, almost instinctively impelled.

The subject of recreation involves a great practical truth. Those who do not work cannot know recreation; without the action there can be no reaction, for the one follows the other as effect follows cause, and when all is in order, as a necessary cause.

Again, recreation must alternate with work, if the power of working is to be retained. If recreation cannot be enjoyed without work, neither can work be enjoyed, or vigorously pursued without recreation; but the fact has been greatly overlooked in this busy age, and work is pursued unceasingly, until, either body or mind, sink under the never-ending tension, or, if they do endure, until the power of taking recreation is lost, until the mind becomes so immersed in its daily engagements, in its daily routine, that it cannot divest itself of the trammels thrown around it. The man becomes so bound down in the pursuit of money, of power, of reputation, that he is a slave to his own desires, he grudges every moment abstracted from the advancement of his darling *cares*, he *cannot* recreate. Here is neither time nor place to point out, how far this inordinate slaving is removed from the true ends of man's being in this world, or how little it is in accordance as a preparation for another. It is a system but little calculated to afford either continued health, or happiness, or usefulness, in man's daily life; the physical powers must eventually give way under it if persevered in, and dyspepsia, miserable hypochondriasis, paralysis, and cerebral disease be the probable consequences; or, without the presence of tangible disease, the power of exerting the mind be lost. A man who thus feels himself enslaved by work, should, by an effort, break through the restraint, an effort it *will* require, to cast off the morbid state of mind which is generally connected with the condition, but the effort must be made, and those from whom it is most required, are generally those who most have it in their power to avail themselves of the means of recreation to the utmost,—they are our wealthy, but overtasked in mind and body, merchants, lawyers, men of business, and in some cases medical men. They think they cannot leave their posts without everything going wrong, without risk of loss; risk of some rival taking up an investment, a cause, or a patient; and it may be so, but is the chance of such petty losses, a reason for sacrificing health, and life, and real happiness too? for *that* cannot be real happiness, which is dependent for its continuance upon the same mill horse round of actions. It is repeated, recreation is a duty which the man of real work owes to God, to society, to himself, and to his family, and it is a duty which he cannot altogether neglect, without risking the loss of both mental and bodily health.

The kind of recreation in which a man should indulge, must of course depend greatly upon circumstances, but, generally speaking, a complete change of scene and air is desirable, such as will break in upon old trains of thought, give new ideas, and afford pleasurable recollections, when the active exertions of life are again returned to. It argues well, both for the physical and mental elevation of the population at large, that the means of recreation, the cheap trips, the excursion trains, &c., are so abundantly taken advantage of, and are becoming yearly more common, for these must be regarded as part of the great sanitary movements of the age, the means of affording cheap and thorough recreation to classes, who, some years ago, scarcely dreamed of such a thing. It ought to be the duty of all, of every government, of every master, to give abundant facility for pure healthy-minded recreation to the people; to do so is true economy of that real wealth, social and political, the healthy mind, and healthy frame of every individual of the community.

Recreation, reaction after toil, or in other words periodical stimulation of mind and body, in those who work, is so strongly instinctive, that it *will* be sought, and if not found in one way, in the reading-room, the lecture, the concert, the garden, or even in the cricket-ground, if not afforded in the fête or the excursion, will be procured in the tap-room, or in degrading and vicious pursuits

To sum up, the stimulus of recreation, is one of those stimuli necessary for the continued healthy tone of both mind and body, it cannot be neglected without injury to both, its gratification ought to be directed into those channels, which will preserve its utility, because they preserve it in order, in moderation, and in purity.

Refer to—*Exercise*—*Dancing*—*Pleasure*—*Rest*, &c.

RECTUM—The rectum is the terminating extremity of the large bowel which opens at the anus or fundament. It derives its name from its straight course, as compared with the tortuosity of the other portions of the intestines; it is about nine inches in length, lies in front of the "sacrum"—See *Pelvis*—and expands into a dilatation just above the external opening, or "anus," by which it is closed by a "sphincter" muscle, which retains the contents of the bowel, [illegible] unless, when under the influence of the will, it permits their expulsion, the latter act being effected by means of the muscular fibres of the gut itself, aided by the downward pressure of the diaphragm, and other muscles of the abdominal boundaries. The rectum is of course lined by a continuation of the mucous membrane which lines the intestines throughout. The rectum is subject to various diseases, which generally require efficient surgical assistance, for their safe and speedy cure.

Infants are occasionally born with what is called "imperforation," of the rectum, that is, the gut instead of being an open canal, is closed wholly or partially, either at the external opening, or higher up. When "imperforation" of the rectum in an infant is either evident, or is suspected, from the non-passage of the natural contents of the bowel downwards, from the belly becoming tense and full, and from vomiting of the contents of the bowels, the child should at once be seen by a surgeon, for it is possible, that a simple operation adopted without loss of time, may rectify the evil, and preserve life.

Obstruction of the rectum, painful or otherwise, may occur either in adults or children, in consequence of the presence, either of hardened "fæces," in considerable quantity, or of foreign bodies which have descended after being swallowed, and become fixed in the gut, just above the lower opening, or which have been introduced directly into the canal, either by accident or design.

The dilatation of the rectum just above the anal opening, rather favours in some cases the accumulation of the hardened fæcal contents of the bowels, especially in the aged, a condition which is apt to occasion much suffering, and inconvenience. Such an accumulation generally requires the aid of the surgeon, who removes it by mech nical means, such as scoops, and such like instruments; or the handle of a spoon is sometimes used in the absence of the above. In proper hands the case is of course safe, but it would not be well for unprofessional persons to attempt such interference; much, however, may be done by the persevering use of mild clysters, of about half a pint of fluid at a time, which will first soften, and finally induce the discharge of the mass[*] Foreign bodies lodged in the rectum may produce distress simply from their bulk, or they may produce much suffering by lacerating the lining membrane by sharp edges or points, causing intense pain on any attempt being made to evacuate the bowels; children not unfrequently suffer in this way, from the stones of plums, &c., which they have swallowed, and the author has seen a case, in which the greatest agony was apparently caused in a child, by the hard core of an apple becoming fixed at the opening. In all such cases, it is advisable to get proper advice at once, but in the absence of this, clysters of tolerably thick gruel may be used, or the finger well greased, may be carefully introduced within the gut, to ascertain, if possible, the presence, and assist the removal of any small body within reach, but no instrument can be safely used except by a medical man.

Obstruction of the rectum may likewise be the result of disease which causes narrowing or "stricture" of its canal; this disease which generally occurs after middle life, and which may either be of a simple or of a cancerous nature, is thus described by Mr. Syme, a high authority on the subject. "The symptoms of simple stricture, are slow, painful, and imperfect evacuations of the bowels, the desire to empty the rectum continuing after the most powerful and prolonged efforts of expulsion, the discharge of fluid matters with great force, as if from a squirt, the appearance of the solid evacuations in the form of slender cylinders, or small round masses, and the admixture of a large quantity of mucus, often bloody, with the feculent excretions. The disease generally manifests itself very insidiously, and before long is usually accompanied with a distended state of the abdomen, which is owing partly to retention of the intestinal contents, and partly to a tympanitic condition, induced by the irritation thus occasioned. The desire to empty the bowels becomes at length almost incessant, and the frequent attempts which are made to do so, being seldom followed by any evacuation, except of fluids, there is a risk of erroneously supposing that the patient labours under diarrhœa; and with this view of prescribing medicines which have a tendency to increase the distension of the intestines." It is only requisite to add, that when such symptoms as the above shew themselves, there is but the one course left, that of procuring the best advice as soon as possible.

Ulceration of the lining membrane of the rectum, fissure at the anal opening, and other diseases, especially the last named, which produce painful sensations, when the bowels are evacuated, can only be properly investigated and treated by a surgeon.

Falling, or "prolapsus" of the bowel, and piles, have already been considered under their proper articles.

Fistula is a disease connected with the rectum, which often causes much inconvenience; it is the result of abscess, which having formed, and discharged at the side of the gut, remains unhealed and unhealing, and often opens both externally, and into the bowel, forming as it were a side passage, by which wind and fluids are apt to escape along with the discharge peculiar to the artificial passage. As may be imagined, such a state of matters gives rise to much annoyance, and calls for speedy removal, which can only be procured with certainty by operative procedure on the part of a surgeon, the sooner, therefore, this is submitted to the better, the bowels being in the meanwhile kept lax, and the disagreeables of the condition alleviated as much as possible. Fistula is far more common in males than in females, and is often associated with consumptive tendencies.[†]

REFRIGERANTS—in medicine, are remedies employed to reduce the existing temperature of the body, either locally or generally. Internal remedies such as the vegetable acids, nitrate of potash or saltpetre, &c., have been used under the name of refrigerant, but it is difficult to trace to them any direct action; indirectly, they probably act by reducing the force and frequency of the circulation. The best and most direct refrigerant, is the obvious one, cold itself, used through the medium of cold air, cold water, or ice, and in most cases, when the animal temperature is raised above the natural standard, in some of these forms cold is useful. The late Dr. Currie of Liverpool, established the practice of treating fever, by the refrigerating action of cold, used very boldly, in the form of cold water dashed freely over the patient, and the practice was at one time considered most successful, but either from timidity, or some other cause, it has fallen into comparative disuse among medical men, at the present time. Refer to—*Cold—Ice, &c.*

REGIMEN.—Is the regulation of the

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[*] For infants, the finger is the best and safest instrument for clearing the rectum from hardened fæcal matter.

[†] It ought to be generally known the old operation of "Cutting for Fistula," as it is popularly called, has been much simplified, and is not nearly so formidable as it used to be. This is one of the many improvements, in modern surgery, which we owe to Professor Syme, of Edinburgh.

habits of an individual, with reference to health. Diet is properly included under the term, but is generally spoken of separately. The proper regulation of the regimen of an invalid is obviously a matter of great importance. It includes the prescription of the hours, and kind of employment, of exercise, or of amusement, of the times of meals, and of sleep, of dress, &c., &c. As the particulars of regimen are sufficiently entered into under the various articles, it is superfluous to notice them further here.

RELAXATION—See *Recreation.*

REMITTENT FEVER—See *Fever.*

RENAL.—Appertaining to the kidney.

RESINS—are vegetable juices, which are solid, are not soluble in water, but dissolve in alcohol; they are generally brittle, and more or less transparent. The resins best known, and which are used in medicine, are left after the distillation of the essential oil of turpentine; they vary in appearance, according to the mode in which the distillation has been conducted. Resin is only used in medical practice at present, as an addition to plasters. It enters into the composition of the well-known Basilicon ointment.

Refer to—*Basilicon—Plaster, &c.*

RESOLUTION.—The term is used in medicine, to designate that termination of the process of inflammation, by which the affected part is left without obvious change of structure, in other words, is left in the same condition as it was previous to becoming inflamed. See *Inflammation.*

RESPIRATION. — Breathing, in its widest sense, is the process by which atmospheric air is brought into contact with the fluids existing in the interior of organized beings, whether vegetables or animals; in man, it is the function by which atmospheric air is introduced or drawn into the lungs or respiratory organs, and again expelled, after its oxygen has been exchanged for the carbonic acid with which the venous blood is loaded as it enters the lungs. Thus the process of respiration in man comprises, first, the act of drawing in the air, or "inspiration;" and secondly, that of expelling the air, or "expiration."* As the reader will find all requisite information upon this vital function under articles—*Aëration—Blood—Chest—Circulation — Lungs, &c.*—it is unnecessary to repeat it here.

RESPIRATORS—are instruments used to protect the air-passages from the direct effect of the air, especially when it is cold. They are, undoubtedly, when used with proper discretion, most valuable. The first instrument, probably, to which the name of respirator was applied, was Jeffrey's well-known one, constructed upon the principle that the warm breath passing out from th lungs, should impart its heat to a number o small, closely set wires, this heat bein taken up at the next inspiration by the col air, in its passage through those wires, t the lungs. Jeffrey's respirators are made s as to protect the mouth alone, the nos alone, or mouth and nose together; there i also a form of hand-respirator, intended fo temporary use, such as when passing from room to room, &c. In many cases of ches affection, these instruments furnish a mean of protection of the highest value, particularly for those who, suffering from delicac of the lungs, cannot, by reason of thei avocations, avoid exposure after night-fall or to cold or foggy air of any kind. Wit warm clothing, and a respirator, an invali may almost defy climate, particularly as th instrument not only protects the air-passages from the direct influence of the cold but seems to assist in preserving the anima heat of the body generally. The nose respirator is principally intended to be wor during sleep, and enables persons who suffe from delicacy of chest, to occupy durin winter, bed-rooms much more freely ventilated than they could without its assistance.

The chief objection urged against man respirators is, that they keep the air o respiration in too artificial a state of warmth and thus render the wearers peculiarly susceptible on the slightest accidental exposure in fact, render them so sensitive of cold a to be almost entirely dependent on the instrument for comfort, and health, and eve for life. Notwithstanding these objections when as full protection as possible from cold air is required, Jeffrey's respirator i the best instrument, care being taken, o course, that it is not unnecessarily had recourse to. When a minor degree of protection only is required, it may be attaine by some protective material worn across th mouth, which acts upon the same principl as the respirator above-named. A handkerchief of silk or of woollen material i at once a simple and efficient respirator protector, and various forms of respirators made of woven materials, may be procure at the shops. Some very convenient one are manufactured by Messrs. Cook an Williams, of Princes Street, Regent Street These being made in the form of a neck-tie may, under any accidental exposure, be a once adjusted over and protect the mouth Some persons find respirators of any clos material so confining, as to cause difficulty of breathing; for such cases, open knitted protectors of Shetland wool are wel adapted. Veils of the same material are made, which form an additional protection for females.

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* The respirations in health ought to number sixteen to eighteen per minute.

Persons who are not very delicate, but who yet find it requisite to wear a respirator, will often find it a relief, when walking, to slip the instrument off the mouth when they turn away from the wind, or in very sheltered situations, re-adjusting it whenever they again meet the wind, or pass into a more exposed situation.†

REST.—Refer to *Sleep.*

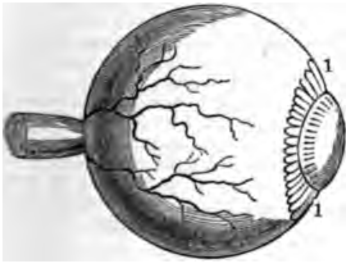
REST-HARROW. — This well-known and common weed has some repute as a remedy in chronic rheumatism, and might safely be tried. In the *British and Foreign Review* for October, 1840, it states, subsequent to some other observations, "It was not invariably successful, but it never did harm, and cured many cases that had long resisted other means." The form of administration is a concentrated decoction of the fresh bark with its roots, or of the roots and stems dried, and a quart of the decoction must be taken daily. Its immediate effect is powerfully diuretic.

RESUSCITATION—the restoration to sensibility of persons apparently dead, is sufficiently treated of under articles *Carbonic Acid or Choke-damp—Cold—Drowning—Hanging, &c.*‡

RETE MUCOSUM.—The internal layer of the outer or scarf skin. See *Skin.*

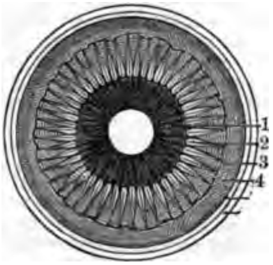
RETINA*.—The retina — fig. A, 1 — is the expanded sheet of nervous substance derived from the optic nerve, which forms the inner coat of the eye; it is the essential portion of the visual organ, the mysterious link between material appearances and mental impressions, without which, or in a diseased state of which, all other arrangements for vision, however perfect, must be futile. The eye may seem as lustrous as ever, its depths as clear, but if the retina or its nerve fail, all is dark,

"And knowledge from one entrance quite shut out."



A

The Retina—fig. B.—does not extend quite to the fore part of the interior of the eye-ball, but only as far as what is called the "serrated line,"—fig. B. 3—in front of this serrated line, lie the ciliary foldings,—fig. B. 2—of the coloured coat of the eye, and more anterior than these the "iris,"—fig. B. 1—the posterior view of which is represented in the drawing.



B

Blindness from disease of the retina constitutes the disease named amaurosis. See *Amaurosis.* In a living, or perfectly fresh eye, the retina is transparent, but soon after death acquires an opacity somewhat resembling that of ground glass. The minute structure of this portion of a wonderful organ, is in itself most wonderful and complex.

RHEUMATISM. — Under this well-known name are comprehended two forms of disease, differing greatly from each other, so greatly, indeed, as to be distinguished even by the unprofessional. The acute form of rheumatism, frequently called "rheumatic fever" by medical men, is popularly named the "rheumatics," whilst the chronic form, the "chronic rheumatism" of the physician, is known to the public as simply "rheumatism," or in vulgar parlance, as "the rheumatiz." "Muscular rheumatism;" is also included under the term rheumatism.

Acute rheumatism, or rheumatic fever, is characterized by symptoms of high inflammatory fever, there is shivering, great heat of skin followed by profuse sour smelling perspiration; the pulse is rapid and full; the tongue, covered with a white, creamy looking fur, is red at the tip and margins; there is much thirst, and the appetite is deficient. Delirium does not often occur, unless the heart becomes involved. Coinident with the above constitutional symptoms, one or more of the large joints, or some of the tissues in the neighbourhood of a joint, become exquisitely tender, swollen, and inflamed, the skin over the affected part turning red. Whatever may be the part or joint first affected in a case of acute rheumatism, it rarely becomes the fixed seat of the disease, which, before long, almost invariably transfers the site of its manifestation to some other joint, leaving the one previously affected entirely free, or nearly so; this shifting from one place to another, goes on during the whole period of the disease, and, indeed, constitutes its most characteristic and well marked feature. Few diseases are accompanied with more pain and suffering than acute rheumatism, the slightest movement often causing the most exquisite torture; the patient lies in a state of helplessness more or less complete, according to the extent of the affection of the joints. A disease which, like acute rheumatism, can thus shift its local indications from one part of the body to another, must evidently be a constitutional one, and there can be no question that it is a blood disease; that is, that it is dependent on a morbid condition of the blood, or the circulation of a poison generated in that fluid. The near resemblance in many of their circumstances between gout and rheumatism, renders it probable that a similarity, at least of cause, may be expected. In the former disease, the blood poison, the "uric acid," not only separates itself spontaneously under the form of chalk stones, but it has been separated from the blood itself by Dr. Garrod. That a superabundance of peculiar acid, probably lactic acid, does exist in the system, during an attack of acute rheumatism, is unquestionable. So long as an attack of acute rheumatism confines itself to the joints, and to the parts in their vicinity, it is a disease devoid of danger, but, unfortunately, in a very considerable proportion of cases, there is a tendency of the disease to attack some of the "fibrous" structures connected with the heart, which resemble those fibrous tissues, which, in the neighbourhood of the joints, are the common seat of the disease. This inflammatory rheumatic affection of the heart, included under the term carditis — see *Carditis* — having already been sufficiently entered into, does not require further detail here, suffice it to remark, that it is a complication of an attack of rheumatic fever which is always to be anxiously watched for, and its first appearance treated with the utmost activity. It is more liable to occur, the younger the subject, and, indeed, the author has reason to believe, from a case which has come under his own notice, that where strong hereditary predisposition to rheumatic affection exists, the heart in a child may become affected rheumatically, and the foundation laid of future organic and incurable disease, without any of the usual joint affection of rheumatic fever being mixed up with the first attack, which has probably been passed over as a feverish cold. Probably, such cases are not common, but their possibility should put parents, who are aware of hereditary predisposition to acute rheumatic disease, upon their guard as respects their children. In considering the causes of acute rheumatism, the strong predisposition that exists in individuals and families, hereditarily, is most important; for in such persons, extra care is always requisite, they are liable to become the subjects of the disease from contingencies which would leave others quite unaffected. This circumstance of hereditary predisposition to acute rheumatic affection, ought always to be considered by parents in directing or advising upon the future destinations of their children, who ought never to engage in any occupations which may involve much exposure to the vicissitudes of weather, for if they do, they almost certainly become the victims of rheumatic fever, involving long and painful present illness, and in all probability laying the foundation of years of future suffering, and of half usefulness, from heart disease. Indeed, so serious are the considerations involved in hereditary predisposition to acute rheumatic disease, as to make it a question, whether persons thus predisposed, would not find it their best plan to leave the changeable and often damp climate of Britain, and make their home in one such as that of Australia, free from such objections; provided, of course, that after the move, occupations are not engaged in which involve exposure. The question of hereditary predisposition to acute rheumatism is one which no Life Assurance Company should overlook.*

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* See *Eye*.

† Dr Stenhouse has recently suggested that Charcoal should be used in the manufacture of Respirators for those who are subjected to the influence of injurious gases or vapours.

‡ For an account of Marshall Hall's "Ready Method of Resuscitation," see Appendix—Article, "Drowning."

Of the direct causes of acute rheumatism, there can be no question that cold and damp combined, are the most usual, out of all proportion, consequently, the poor and ill-clad, are they who suffer most frequently from the disease, although any person exposed to such influence is liable to be similarly affected. For the above reason, acute rheumatic affections are most prevalent during cold, wet weather; they are, however, by no means uncommon during the prevalence of extreme heat. This circumstance is perhaps traceable to the fact, that persons are apt to have the free action of the skin, the profuse perspiration, checked by incautious exposure in hot weather. Whatever the cause, the disease prevails. The author likewise believes he has traced attacks of the affection in the predisposed, to unusual exertion, without any appreciable check having been given to the perspiration. The disease is most generally met with between the age of puberty and the fortieth year; it is more common among males than females.

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* Within the last ten years, nearly all the Life Assurance Companies have introduced a question respecting Rheumatic Fever into their examination papers.

The treatment of acute rheumatism is not, either likely or desirable, except under peculiar circumstances, to be trusted to unprofessional management; the long continuance of the disease, its painful nature, and above all, the possibility, almost probability, of so serious a complication as affection of the heart arising during its progress, all combine to render proper medical assistance from the first, highly desirable.

When an individual who has either suffered from an attack of acute rheumatism, or is hereditarily predisposed to it, or indeed when any one, after exposure likely to produce an attack, suspects the disease to be impending, the first effort should be to excite the free action of the skin. If a warm or vapour bath can be procured, it is highly desirable; if it cannot, the best substitute will be a well warmed bed, with hot bran bags, or hot bottles, and the free use of warm diluent drinks. A draught, composed of half an ounce of spirit of mindererus, one drachm of paregoric, and fifteen drops of ipecacuanha wine, in a wine-glassful of water, may be given every four or five hours, or a drachm of sweet spirit of nitre may be substituted for the mindererus. To the above draught, fifteen minims of liquor potassæ, or ten grains of the bi-carbonate of potash may be added with advantage. Under the above circumstances, any stimulant diaphoretic may be given with benefit, even a little gin, or other spirit, or wine, *well diluted* with hot water; these stimuli being used, of course, only at first, and whilst fever is not yet present.

When an attack of acute rheumatism characterised by the symptoms detailed at the commencement of this article, is unequivocally established, if medical assistance is not immediately procurable, the patient must be kept in bed, *moderately warm*, the thirst quenched by the free use of simple diluent drinks, and the diet reduced to a very low scale, anything like alcoholic stimuli, or animal preparations, being strictly forbidden, except in the cases of very debilitated persons, when animal broths, such as beef tea, may be permitted in moderation. If fever runs high, tartar emetic, in from eighth to fourth of a grain dose, may be given every four, five, or six hours, and with this, from six to ten drops of laudanum may be combined, to alleviate the pain. This will, however, under the circumstances, be better effected by the use of from one grain, to two grains of solid opium, given at bed time, along with five grains of calomel, the dose being followed in the morning by a purgative, a black dose, or senna alone, or in a strong subject, senna combined with Epsom salts. The safest way of managing the opium, will be to give a grain the first night, and if that does not procure sleep, gradually to increase the dose. If the mouth becomes affected by the calomel, it must of course be discontinued. Instead of simple opium, Dover's Powder, in doses of from ten to twenty grains may be given, likewise combined with calomel, and followed in same manner by the purgative. The above measures might with safety be adopted under peculiar circumstances in the absence of medical assistance; there are however many other modes of treatment—bleeding was formerly much employed, it has fallen into comparative disuse, at all events it could only be had recourse to legitimately by a medical man. The treatment by large doses of nitrate of potash, or saltpetre, has had its advocates, and may be tried: the mode of administration, as laid down by Dr. Basham is, to dissolve two ounces of the saltpetre in two quarts of water, and to give this quantity in the course of the twenty-four hours. This treatment, which is said to be very successful at times, might be available in the absence at least, of other remedies; of course, if symptoms indicative of irritation of the stomach or bowels came on, it would require to be abandoned. More recently, the treatment of acute rheumatism by lemon juice as introduced by Dr. Owen Rees has come into practice, and seems in many cases to answer extremely well; on this point the author can speak favourably from his own experience. This treatment has the advantage of being perfectly safe, and therefore, where the lemon juice can be procured, may without danger, be pursued in the absence of a medical man. One table-spoonful or half-an-ounce of lemon juice, is to be given every four hours. The "alkaline treatment" of acute rheumatism is followed by some, fifteen to thirty grains of bi-carbonate of potash being given, well diluted in water, every four hours. Most persons have heard of colchicum, in connexion with the treatment of rheumatism, and in proper hands, properly used, it is at certain times most valuable, but its employment requires too much discrimination to make it safely usable, in this disease at least, by unprofessional persons. Many other modes of treating acute rheumatism might be detailed† but the foregoing are sufficient; sufficient at least as provisional means in the hands of an unprofessional person till the case is seen by a medical man, which it ought to be as quickly as possible. The reader is again referred to "Carditis" in connexion with this article. As regards the local treatment of the inflamed joints, little is to be done in a disease which shifts its site as rapidly as acute rheumatism; for even if it can be driven from one joint, it must, as long as the poison is in the constitution, shew itself elsewhere, it may be in the heart; above all things, leeching the joints, unless under peculiar circumstances, of which a medical man only can judge, is to be avoided—hot bran bags sometimes give relief, but probably the following plan laid down by Dr. Bentley Todd, will be the most advantageous local method of treatment. When the joints are much swollen and painful, much ease may be given by enveloping them in a large quantity of the soft carded cotton—"cotton wool."—over which there is wrapped *completely* a piece of oiled silk.* By this air tight covering, the joints are kept in a perfect vapour bath, and when it is removed after twelve or twenty-four hours, the wool will be found saturated with moisture which is strongly acid. Dr. Todd says, this treatment affords great relief, supports and keeps the limb steady, and at the same time promotes sweating. It is also serviceable in gout.

There are few diseases so tantalizingly tedious as acute rheumatism, it may disappear quickly, possibly in a week, or it may extend its visitation, ebbing or flowing, to ten, twelve, or fifteen weeks, in spite of treatment, apparently the best directed; but yet, provided the heart, the diaphragm, the brain remain unaffected, it is free from danger, and generally speaking, does not leave joints which have been severely affected, worse than they were before. It is very rarely the case that matter forms in consequence of rheumatic inflammation. It has been said, that there is a rheumatic predisposition: not only does this shew itself in a tendency to attacks of acute rheumatism properly so called, but it tends to modify any inflammatory action in the body, as for instance in the eye, when it gives rise to the peculiar "rheumatic inflammation." The causes of acute rheumatism already pointed out, will suggest to most persons the precautions to be adopted, especially when liability to the disease exists. Col and wet are particularly to be guarde against, and after exposure, the preventi measures already laid down adopted. Flann or woollen worn next the skin, must alwa be regarded as one of the chief preventive it should of course be proportioned in thic ness to the season and temperature. Som persons imagine that their liability rheumatism, either acute or chronic, is i creased by flannel; if it is, it is probabl because the wool keeps the skin in too e cited a state, and by increasing perspiratio increases the risk of suppression; in suc cases, woven silk when it can be afforde is useful, or spun cotton, may be used i winter: many rheumatic patients find the chief protection in an under dress of ch mois leather. At all events, perfect war clothing, and protection against suppresse perspiration, is essential in all such case Many of the above precautionary measure apply likewise to chronic rheumatism Persons of full habit, liable to rheumati attacks, should eschew malt liquor gene ally, should take animal food sparingly and avoid violent exertions which heat th body. Persons of spare or feeble habi may live better, and indeed require to kee up the condition of the body to as good pitch as possible.

By Chronic Rheumatism, in the prope sense, should be meant a disease som what resembling the acute form, accomp nied with but slight febrile derangement, there is fever at all, and affecting one more of the joints, generally the small ones, which continue for a greater or le length of time swollen and tender, the flammation either subsiding without effe or after long continuance, causing perm nent thickening around the joints, probab with permanent distortion; the proce being more or less accompanied with pa In this form of rheumatism, instead of he there is often a sensation of cold around t affected parts. The chronic nature of th disease must generally place it under prop medical control; the chief efforts of the u professional must be, to correct any slig deviations from the general health, to pr tect the affected parts especially from co by means of warm clothing, and to u friction, either with simple oil, or by mea of the soap and opium liniment. Mu comfort is not only derived from frictio but if combined with proper exercise of t joint or joints, it may do much to preve permanent deformity. In chronic rhe matism, warmth of climate is of muc importance, and as much should be do towards the attainment of this, as circum stances will permit. Sir James Clark recommends Nice and Rome, as the best European climates, but these, of course, are the resources only of the wealthy. Australia, however, is open to the poorer classes. Warm bathing, especially the saline bath, such as is furnished by Bath or Buxton, or Ashby-de-la-Zouch, is of the highest service in cases of chronic rheumatism, and in all cases of long standing, should, if possible be had recourse to. The charities connected with many of the baths, are available to the poor.

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* Sheet Gutta Percha will do.

† There remains now very little doubt in the minds of medical men that the Alkaline treatment, with or without Colchicum as the case may be, but always with opium, is quite the best that has ever been proposed. It is theoretically correct, and it works well in practice.—For an account of the Actæa Racemosa, lately introduced under high authority as a cure for Rheumatism, see Appendix.

Chronic rheumatism* properly so called, is such as above described, but the term rheumatism, or rheumatic pain, is also used to a great variety of anomalous pains, and from this has arisen considerable confusion. The best marked of these is "muscular rheumatism," which affects chiefly the thick muscles, such as those of the shoulders, arms, neck, loins, &c. This form of rheumatism often comes on suddenly, after exposure to a current of cold air, sometimes after cold bathing; its chief characteristic is severe pain, when the affected muscles are thrown into action. This muscular rheumatism seems to be a purely local affection, and is generally removable by purely local remedies. Of these, the best is a large hot bran poultice, or some other means of applying heat and moisture, applied over the affected part, for eight or twelve hours; this often at once cures—care must of course be taken, to protect the part to which the heat has been applied by a covering of flannel. After the hot application is removed, if the heat does not entirely cure, and even instead of it at times, the soap and opium liniment, either alone, or combined with one-third turpentine added, may be used with advantage; two or three tea-spoonfuls being well rubbed into the part every six or eight hours. In situations where other means are wanting, counter-irritation, by means of pieces of metal dipped in boiling water, and applied to the skin, or by means of Dr. Corrigan's hammer—see *Counter-irritation*—may be resorted to. In rheumatism of the thick muscles about the shoulder, the use of the acupuncture needles often removes the affection in a strikingly rapid manner, indeed, sometimes in a few minutes.

Any notice of rheumatism at the present day must be imperfect, without some allusion to electric and galvanic agencies; galvanic rings, electric chains, &c. That these appliances are at times of apparent service in cases of chronic rheumatism is undoubted, and if such is the case, we are not justified in rejecting their aid, because we cannot exactly explain the why and wherefore of their action. The effect of the acupuncture needles, above alluded to, in curing muscular, and also nervous rheumatism, such as sciatica, is sometimes almost magical, but, how the simple introduction of a needle into the substance of the body, acts so as almost instantaneously to remove a most painful affection, it is very difficult to say. In using electric or galvanic appliances for the use of chronic rheumatism, those apparently which keep up a slight, but continued electric excitement, are most useful. The electric chains of Pulvermacher, seem well adapted for this purpose.

Refer to—*Acupuncture—Carditis—Gout, &c.*

RHUBARB, MEDICINAL.—Rhubarb Root. Well known as this valuable medicine is, there is yet considerable uncertainty respecting which of the many recognized species of rheum, or rhubarb, yields the true medicinal drug. A species known as the Rheum palmatum, is considered to be the most likely source of the best rhubarb, but it is not improbable, that other species of the genus rheum, yield much of the rhubarb root imported from the East, and it is certain that different species of rhubarb are cultivated in this country, and on the continent, both for adulterating the genuine article, when in the form of powder, and for simulating it in substance, being "dressed up" in a manner similar to the real root. Dr. Royle says, "The greater part of the rhubarb of commerce, grows in Chinese Tartary, and is gathered in summer from plants six years old. When dug up, it is cleansed, peeled, cut into pieces, bored through the centre, strung on a string, and dried in the sun." A portion of this rhubarb goes to China, the remainder passes through Russia, and is known in this country as Russian or Turkey rhubarb. When genuine, this rhubarb is always a superior drug, chiefly on account of the care bestowed upon the examination of the samples, before they pass the Russian factory, through which they are transferred to the European markets. At this factory the inferior samples of the root, are, or ought to be rejected. Russian or Turkey rhubarb "varies in shape, being irregularly roundish and angular, from the bark having been shaved off with a knife; some pieces are cylindrical, a few flattish, many of them pierced with holes. Externally smooth, of a yellow colour; internally, the texture is rather dense; fracture uneven, irregularly marked with white and red veins, having a strong, and peculiar slightly aromatic odour, a bitter, rather astringent taste, feels gritty when chewed, and produces a powder of a bright yellow colour."* The grittiness is owing to the presence of numerous crystals of oxalate of lime, that salt being found in the rhubarbs generally. Chinese, or East Indian rhubarb, is probably derived from the same source as the Russian, which it resembles in essentials, although less uniformly good. English rhubarb is cultivated chiefly near Banbury, in Oxfordshire. "It is the kind frequently sold by men dressed up as Turks, as genuine Turkey rhubarb. The pieces vary in shape, some being ovoid, others cylindrical, smoothed externally, and rubbed with a yellow powder, light, rather spongy, with a reddish hue. It is rather mucilaginous in taste, and a little astringent. Its odour feeble, but unpleasant." Few medicines are more extensively used than rhubarb, few are more valuable or safer. The most characteristic action of rhubarb, is that of a mild, but effectual aperient, the action depending upon the amount of the dose; it rarely gripes; it exerts, moreover, a beneficial tonic action upon the stomach. On account of its astringency, rhubarb is apt to leave a tendency to constipation, after its purgative effect is over.

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* In that variety of Chronic Rheumatism—popularly called Cold Rheumatism—in which the symptoms are relieved by warmth, Guaiac is an invaluable remedy. A teaspoonful of Ammoniated Tincture of Guaiac may be taken in a little milk three times a day, or two tablespoonfuls of the Guaiac mixture three times a day.

Rhubarb may be taken alone, as an aperient, in doses of from ten to thirty grains, either simply mingled with water, or made into pills. Some persons habitually carry a piece of the root in their pockets, and cut off small fragments as they think them required. Infusion of rhubarb, is made according to the *London Pharmacopeia*, by infusing for two hours, three drachms of the sliced root, in a pint of boiling water. The preparation is too weak for an efficient aperient, but may be used as a stomachic.

The compound rhubarb pill, one of the best forms of common aperient we possess, has been already considered—see *Pills*.

The compound rhubarb powder, is better known as Gregory's Powder, or Gregory's Mixture. — See *Gregory's Powder*. — The tincture or compound tincture of rhubarb, is an extensively used, and most valuable remedy, chiefly as a stomachic cordial, and anti-spasmodic; it ought rarely to be given as an aperient, on account of the large amount of spirit which must necessarily be taken with it in this form, by most persons; a few individuals, however, of weak habits, whose bowels are very easily acted upon, find it beneficial, not only for its aperient action, but for its subsequent tonic and astringent powers. When increased action is required in such cases, the tincture of rhubarb and aloes, is a useful preparation.

To make the " tincture of rhubarb : of rhubarb sliced, two ounces and saffron, three drachms — liquoric bruised, six drachms—ginger, bruis drachms—proof spirit, two pints—m for a week and strain.†

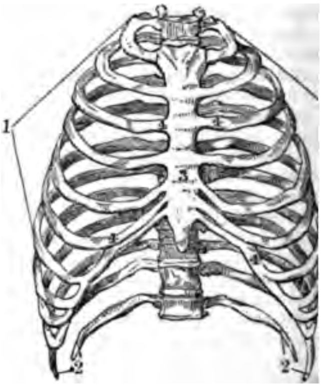
For infants and children, rhubar or combined with calomel or grey when requisite, forms a most e medicine; the chief objections a bulk, and taste, which render it so difficult to administer. It should be bered, that in persons who are taki barb, the urine acquires a deeper from the drug. Rhubarb is so thought to be injurious to perso suffer from head affections, such as te to apoplexy, or epilepsy. The fac confirmed.

RHUBARB, GARDEN —is t known in its numerous varieties to description; its agreeable acid dep the presence of the oxalic and mali which it contains abundantly. As ing article of diet, it is wholesome f persons, but some cannot take it suffering after, from stomach disord others who have any tendency to urinary disorders, must most strictl it; indeed, if garden rhubarb is to indulged in, it may give rise to irritation.

When used as food, garden r exerts an aperient action upon the This is increased, if shortly after it h eaten a moderate dose of magne swallowed. Refer to—*Oxalic Acid.*

RIBS.—The ribs are the curved which inclose the chest.—fig. A. upper part of the abdomen. Th

A



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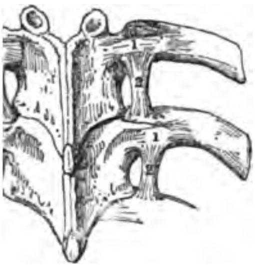
* Royle's Materia Medica.

† The former preparations of Rhubarb were absurdly numerous. The British Pharmacopœia still the Extract, the Infusion, the Compound Rhubarb Pill and Powder, and the Tincture. The additi little powder of Ipecacuanha to the Rhubarb Pill makes an excellent combination for cases of indigesti billousness, and constipation of the bowels.

ber on each side. Of these
on each side —Fig. A, 1, 1—
nnected with the breast bone
'—Fig. A, 3—and are called
the remaining five are called
of these the upper three are
iected with the breast bone,
artilages attached to the car-
ast two ribs, the lowest two
—are unconnected with the
: other ribs in front, and are
d floating ribs. The " car-
A, 4, 4—by which the seven
re connected with the breast
which the three upper false
cted with the cartilage of the
re very elastic in early life;
ge advances, they become less
tely, are converted into bone.
extremity, or head of the rib
he spine—Fig. B.—by means

B



-Fig. B, 1—which admit of
ount of movement. These
so strong, as completely to
ment of the bone by violence,
rally about the angle, taking
—See *Fractures*. The ribs
ttached in front to the breast
ns of ligaments, and are con-
ch other, by short " inter-
es, which act in the efforts,
ation, and of expiration.

is well known grain, although
t others of the class in actual
er—not yielding more than 3
of plastic nutriment—forms
ticle of food to millions, in
s, especially in Asia, and is
s an occasional article of diet
ry. Its chief constituent is
ich it contains 80 per cent.,
s cooked in water, it absorbs
largely, as to swell to many times its bulk in the dry state. It is unquestionable that rice is well adapted as food to the inhabitants of those warm climates, in which it flourishes so luxuriantly, and that its unstimulating nourishment must be conducive to health, whilst at the same time its blandness, to the palate and stomach, can be corrected by the aromatic condiments which usually grow under the same climate, as that which brings the grain to perfection. In climates like our own, rice, probably, could not form a staple article of food, but as an addition to other food, it is of the highest value, and especially to the food of the young, in the form of puddings, &c., *care being taken that the grain is thoroughly cooked*, a point not always attended to; nothing can be more indigestible than half cooked rice. In puddings and the like, this is less likely to occur, than when the grain is dressed as a vegetable, and required to present the distinctness of grain.

The property of rice, in tending to confine the bowels, renders it a valuable adjunct to sick cookery, when such an effect is required; in this case it is most beneficial in the form of "ground rice," or of rice-flour. In cases of diarrhœa, or of irritability of the stomach or bowels, rice water, that is water prepared from rice, as barley-water is from barley, is very useful as a drink. It may be flavoured with lemon-peel, or any other condiment. If the case is a severe one, the solution of a tea-spoonful of isinglass or gelatine in every pint of the "water," is a useful addition.

Arrack, a spirit used by the Orientals, is made from rice.

Refer to—*Grains*.

RICKETS—is a disease in which the bones lose their earthy constituents, and consequently their natural hardness, become soft like gristle, and somewhat brittle, so that they are not only easily bent, but easily broken. The term rickets is usually applied to this softening, when it occurs in childhood, but a similar disease also attacks adults, especially females. Rickets is a constitutional disease, and is very generally associated with a tendency to scrofula, either hereditary, or engendered by poor living and unhealthy influences, such as deficient ventilation and light, impure damp air, and bad food. Rickets may show itself within the first few months after birth, but is more generally perceived when the child first attempts to walk, and the limbs give way under the weight of the body. Coincident with, or rather preceding the evidence of weakness in the bones, the child's general health is observably impaired; there is languor and pallor, with dingy complexion, loss of flesh, tumidity of the belly, impaired or fickle appetite, and unhealthy secretion from the bowels; in fact, the child presents the evidences of progressive scrofulous disease. Not unfrequently there is an approach to the cretin head and features. —See *Cretin*. It need scarcely be said, that a child, showing the symptoms above detailed, cannot too soon be placed under proper medical attendance, for life and future well-being are at stake. Every means for improving the constitution will be requisite. If the situation is an unhealthy one, removal, if possible, should be effected; if the child is still at the breast, unless there is positive evidence that the milk is of good quality, it should be weaned. Animal broths will probably be required even for infants, certainly, along with animal food, for older children. Clothing will require attention as regards its warmth, and tonic and other medicines, especially iron, must be requisite. For a child of a year old, powders, containing half a grain of grey powder, and three grains of carbonate of iron in each, are a very useful remedy, given twice a day for some time. The above are only general directions, for such a disease as rickets ought always to be under proper medical care. In the later stages, when the bones are very soft, much care will be required in moving, to avoid inflicting either pain or injury. Very many children who become ricketty die, but a certain number recover, and though perhaps with distorted limbs, yet become robust in health, the bones becoming quite firm and strong, even more so than those of other persons.

Many children, without becoming the subjects of confirmed rickets, yet exhibit the tendency in an enlarged state of the extremities of the long bones, especially those of the fore-arm, at the wrist. Such an indication ought never to be neglected, every possible means, by change of air, by diet, clothing, and medicine, should be used to improve the child's general health. The powders above recommended will be useful, or five drops of the tincture of muriate of iron may be given twice a day in water, the bowels being regulated by simple aperients, and an occasional dose of grey powder. To resume, it must be borne in mind that rickets is a disease of debility, and of an enfeebled constitution, which every means must be used to counteract. The deficiency of earthy matter in the bones, naturally suggests the use of lime, which may be given in the form of lime-water, along with milk* The use of salt, by the affected children, should be insisted on.

Rickets, or softening of the bones in adults, occurs, as might be expected, in the debilitated, and in those of depraved constitution; it is most common in females, and the pregnant state seems to favour its establishment and progress; it has also been thought to be dependent on the gouty and rheumatic constitution. The disease is often preceded by severe pains in the limbs and bones, which are apt to be considered as rheumatic.

As in the case of children, rickets or bone-softening in adults, requires every means to be used for invigorating the constitution but the proper remedies, and their application, must be regulated by a medical man When a female has at any period of life bee the subject of rickets, the fact may seriousl affect the capability of her becoming mother, either with safety to her own li or that of her child; for as the bones of th pelvis—see *Pelvis*—partake of the gener softening, and yield under pressure, t exit of the child into the world may be re dered impossible or nearly so. The fa should not be lost sight of.

Refer to—*Scrofula, &c.*

RIGOR — is the sudden sensation cold, accompanied with shaking, or in oth words, the "shivering" which preced the inflammatory stage of many acute d eases. It is probably a nervous affecti for it occurs likewise in many states of t body in which there is neither fever nor i flammation. It is a common symptom o the presence of bile on the stomach; it i a concomitant on the passage of gall-stone or of gravel; it often occurs at the commencement of labour, and may even be caused in a slight degree by certain sounds.—See *Shivering*.

RING-FIXED.—See *Finger*.

RINGWORM.—The real nature of this very troublesome affection of the skin has been the subject of much dispute. By some it has been classed as essentially a "pustular" disease, but the probably correct view is that which regards it as an affection of the hair, and of the hair follicles, and that when pustules do arise, they are the product of continued irritation.† The most usual site of the disease is the scalp, but it is apt to appear on, or to extend to the forehead, the neck, the arms, and hands. Generally, the first indications of the presence of ringworm, are the falling or breaking off of the hair which leaves a bald generally circular patch, and the itching which accompanies the disorder. If examined at this time, the patch will be found scurfy, slightly red, with the irregularly broken hairs protruding. If the disease be unchecked by treatment, it goes on extending, until at last it involves almost the entire scalp. The hair, which is not detached, on the affected parts, becomes lighter in colour, and woolly in character. If pustules form, the discharge from them dries upon the surface in the form of scurfy scabs, or in crusts. That the disease is highly contagious there can be no question; it is frequently too extended to different portions of the same head, by combs, brushes, &c., or by the nails, which children are apt to use freely on account of the itching.

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* The Saccharated Solution of Lime is a good preparation for children, and may be given in the dose of from X to XXX minims three times a day. Parrishes' Compound Syrup of the Phosphates may also be recommended—it coutains lime, iron, and manganese. Prepared Bone Earth is another recent introduction for Ricketty diseases.

† Ringworm is now ascertained to be dependent upon the presence of a definite parasitic growth, which *splits up and destroys* the hair follicles. Nothing is more effectual in destroying this than a lotion of *Sulphurous* Acid, kept constantly applied. Two ounces of the Saturated Solution of Sulphurous Acid Gas *should be added* to six ounces of water to make the lotion. It may be had of most chemists.

Few diseases give more trouble or vexation in the management than ringworm, for it often resists for months the best directed treatment, and that which succeeds admirably in one case often fails to make any impression in another. Frequently, powerful stimulant applications are too soon had recourse to, when soothing measures, poultices, &c., would be more serviceable in allaying irritation. The safest treatment is to employ soothing means in the first place, and gradually to have recourse to stimulants. To enumerate the various applications which have been used, with varying success in ringworm, would be a very lengthy business. The late Dr. A. T. Thomson says, in his work on *Diseases of the Skin*, "The application which I have found most beneficial is a solution of one drachm of nitrate of silver in half an ounce of dilute nitric acid. The diseased circles, after the scalp has been shaved, should be pencilled over with the solution, and in ten or fifteen minutes afterwards, the parts should be well sponged, first with tepid water, and then covered with pledgets of lint dipped in cold water, and the evaporation diminished, by covering the wet lint with oiled silk. In India, an ointment composed of a drachm of powdered nutgalls, a scruple of sulphate of copper, and an ounce of simple cerate is said to prove most beneficial." Mr. Erasmus Wilson, another high authority in skin diseases, lays more stress than many others on the constitutional treatment in this affection. He remarks, "Improper food is a frequent predisposing cause, and one of the common causes in schools. I have seen it in children fed too exclusively on a vegetable diet." For these, and similar reasons, he advocates particular attention to clothing, ventilation, exercise, and to the nutrition, aided by tonic medicines, such as iron, bark and mineral acids. With regard to external remedies, after irritation has been subdued, the same author remarks, "An ointment which I have found of great service, is one composed of a drachm of sulphate of zinc to an ounce of simple cerate." Sulphate of zinc in lotion may also be used. "It is beneficial to wash the head with soap once a day, and when dried to anoint it with pomatum, keeping the scalp constantly moistened with some oleaginous matter, is an important adjunct to cure." An application made by dissolving a drachm of powdered borax in an ounce of vinegar, is said often to prove of service. The tarry oil, which distils from the end of a piece of coarse brown paper, when rolled up in the form of a match and lighted, is said, if allowed to drop upon the diseased patch, to effect a cure when other means have failed.* When ringworm is present, the hair should either be cut very short, or the scalp shaved. An oil-silk cap is frequently recommended to be worn, but one of linen is preferable, being less heating and exciting to the skin.

ROASTING—like broiling, is one of the most primitive methods of cooking; in the latter process, however, the surface of the meat is more quickly hardened, and the juices and fat more effectually retained. During roasting, the watery portions of the meat evaporate, and much fat is melted out, at the same time the coagulation of the albumen, the usual result of heat on animal food, takes place. The loss of fat in roasting, renders meat thus cooked more digestible. It retains, moreover, the gelatine, which is greatly dissolved out in the process of boiling. If, however, the cooking is carried too far, the meat overdone, its nutritious properties are impaired. On the other hand, if meat is underdone, although more nutritious, it is certainly less digestible. "By enveloping small pieces of flesh with a covering of lard, the extraction of the sapid constituents from the flesh by its juices, and the evaporation of the water, which causes hardening, are prevented; and the surface, as well as the subjacent parts, are kept in the tender state, which is otherwise only found in the inner portion of large masses of flesh."†

Refer to—*Boiling—Broiling, &c.*

ROCHELLE SALT.—Tartrate of soda and potash.—See *Potash.*

ROLLER.—See *Bandages.*

ROOM.—See *Bed-room—Houses—Ventilation, &c.*

ROSE.—An old popular name for erysipelas.—See *Erysipelas.*

ROSE-RASH.—See *Skin, Diseases of.*

ROSE-PETALS, or LEAVES.—The petals of the red-rose are used in medicine, partly on account of the colour they yield; but their most valuable preparation is the conserve, made by beating up one part of the fresh petals or flower leaves, with three parts of refined sugar. The principal application of the conserve is the formation of pills, for which it is well adapted, being less apt to harden than other materials used for this purpose.—See *Pills*.

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* The soap now made with the Huile de Cade will be found superior to every other tarry application.

† Liebig's *Chemistry of Food.*

When the petals of the red rose are dried for use, the white "claws" at one end should be cut off, and the red portion dried as quickly as may be, without too great heat being used. The petals should then be sifted, to remove dust, &c., and packed in vessels closed against light and air. "Dried rose-leaves" are used in the form of infusion, which may be made with three or four drachms of the leaves, to a pint of boiling water. The infusion is slightly astringent, but its colour, especially combined as it usually is with diluted sulphuric or other mineral acid, is its chief recommendation.

ROSEMARY—is chiefly used on account of its fragrant volatile oil, which is stimulant and anti-spasmodic. The oil may be added to liniments, as a fragrant stimulant addition to these applications. A spirit of rosemary is made, which may be used as an anti-spasmodic, in doses of thirty drops, in water or on sugar.

RUBEFACIENT.—An application which reddens the skin. According to this definition, a great variety of agencies must be included in the class. When the irritant effect of any agent upon the skin amounts to blistering, or causes discharge of pus or matter, the action is said to be vesicant, or suppurative. All these agencies, therefore, are included under the one term, counter-irritants, the rubefacient action being the mildest of the three, and dependent, generally, upon the form and duration of the application; as, for instance, heat, mustard, ammonia, or other excitant agents, may be used so as to produce only the most transient redness, or may be made to cause either blistering or suppuration. The most commonly used rubefacients are—

Ammonia or Hartshorn.
Friction.
Heat.
Mustard.
Spirit of Wine.
Turpentine, &c. &c.*

Refer to—*Counter-Irritation*.

RUE.—The RUTA GRAVEOLENS.—This plant is too well known to require description. It is valuable, and much used in domestic practice on account of its powerfully stimulating volatile oil, which is strongly anti-spasmodic. Medical men certainly too much neglect rue as a medicinal agent. In accumulations of flatulence in the bowels, " t
panitis," a strong infusion of rue give
an injection, is often of the highest serv
and second only to assafœtida; in worm
the thread-worm—in the lower bowels,
infusion of rue, also used in injection
serviceable. In suppressed menstruat
when stimulants are required—see
struation — the rue clyster may prov
much use. Rue is *abused*, when given
it frequently is by nurses, to new-b
infants.

RULE, LIVING BY.—There are
departments of practical medicine, w
have been carried out to a more mischiev
extent of refinement than that which
noticed in this article. Mischievous,
cause an important principle has been o
looked, in the prescription or following
of petty detail. That principle is,
there is nothing more likely, either to cre
or to keep up disorder in any of the org
of the body, which usually act independ
of the will, than continued, especia
anxious attention, directed to them wh
in active operation. It is unquestional
that in some diseases, such as diabe
dysentery, &c., the strictest regulation
diet and regimen is absolutely necess
neither can it be doubted, that in m
ailments, even in those of a trivial charac
some general regulations as to living
required; it is not against such as these t
these remarks are directed, but against
absurd "living by rule," the worse th
useless clockwork regulation of every act
of daily life, eating, sleeping, walking, &
which many dyspeptic and hypochondr
patients, either adopt for themselves, or
advised into. In such cases, instead o
wholesome varied diet, the nature of
food is confined within an unwholesome
narrow compass, and its amount if
weighed physically, is at least so, mental
by the trammelled invalid, who trembl
lest, inadvertently, half an ounce more th
the prescribed quantity, should find its w
into his stomach; and then, after his me
disturbs the digestive process, by thinkin
how it is going on, and by directing his atte
tion to the sensations of his stomach, whic
is petted, and considered, and allowed t
choose its own work, and mode of working
till, of itself, it nauseates the uniformity o
too regulated a diet, and sours even t
mutton of the tenderest, and to the most
unexceptionable brown bread. At last,
forcing its miserable possessor to the conclusion that he is yet over-taxing its powers,
the animal diet is perhaps eschewed, and
farinaceous foods of different kinds are
resorted to, as more digestible by the

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* Where nothing else is at hand, the bruised petals of the common yellow buttercup will act as a rubefacient, or if applied sufficiently long will blister. Nettles, as might be supposed, are an active but somewhat severe rubefacient remedy.

"very weak stomach." As already remarked, rules of life, and stringent ones too, must often be laid down by medical men, for persons labouring under serious disease, nor can they be too strictly attended to, but these cases are abundantly different from that numerous class of nervous and dyspeptic complaints, which are fostered by the too close attention to health, by the "living by rule," the weighing and measuring, and considering every morsel of food, and every action of the body or mind. As said under article Indigestion, the stomach, and other organs too, must, in part at least, be brought up to their work by observation of the rules of health generally; the endeavour to bring the work down to the organs, is worse than useless.

Refer to—*Indigestion.*

RUM.—This well known spirit is distilled from the products of the sugar cane; when genuine, it contains about 58 per cent. of alcohol. New rum is apt to contain lead, dissolved off the leaden worm of the still in which it is made. When this is the case, the rum is of course unwholesome, and may give rise to symptoms of colic; but after the liquor has been permitted to stand some time in casks of oak wood, it becomes freed from the lead, which forms an insoluble compound with the tannin of the oak, and falls to the bottom. Rum is a favourite domestic remedy in cases of incipient cold. It possesses, probably, no advantage over other stimulants, and in such cases, the use of an alcoholic stimulant at all may do harm.*

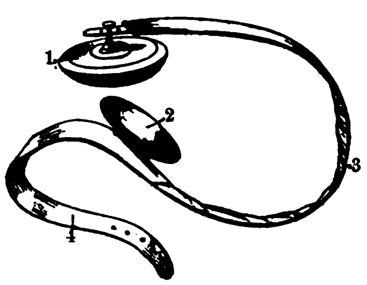
Refer to—*Colic—Lead, &c.*

RUPTURE—By medical men called Hernia, is the protrusion of some portion of the bowels, or of the viscera usually contained within the abdomen, through any part of the "walls" of that cavity. Unless the skin is wounded from without, the rupture remains covered by it, and by certain tissues which lie beneath it, at the points where the accident usually occurs, these points being at those portions of the walls, which are naturally thinner and weaker than others, or at which there are openings, naturally, for the passage of blood vessels, &c.

The existence of rupture is always a serious matter, and on the first suspicion of it, medical advice should at once be sought; it is, moreover, an accident much more common than is generally imagined. It has been calculated that ten per cent. of the population in Britain are the subjects of rupture.

It is sufficient here to notice the three principal kinds of rupture; of these, one occurs at the navel, two in the groin. Rupture at the navel is a very common accident soon after birth; its nature and management have been fully entered into in article "Children." When it occurs in adults, it is not unfrequently the result of neglect in early life, but it may be of recent origin; in females it may be the result of pregnancy and childbearing. Rupture at or near the navel, is known by the presence of an elastic or doughy swelling, which is usually capable of being "reduced," pressed back into the cavity of the abdomen. When this form of rupture is discovered to exist, a truss should be applied without delay, under the direction of a medical man. The essential part of the truss, is a pad made to fit over the site of the protrusion, this pad being kept in place by different contrivances of springs, or of elastic belts, &c.—Fig. A, represents "Salmon and Ody's" truss for the purpose,—1, being the pad which is fitted over the rupture;—2, a pad which is applied to the spine;—3, the steel spring;—and 4, the strap which helps to fix the apparatus. The pads are made of various materials, sometimes of ivory, sometimes of padded materials, and also of caoutchouc bags, inflated with air, &c.

A



Rupture in the groin in adults, is of two kinds. In one, the swelling first appears above the fold of the groin, in the other below it. The former is most common in males, the latter in females; the affection generally, is, however, much more common amid the former sex, the calculation being, that four men are the subject of hernia, for one female. Rupture in the groin also occurs in infants, it is "congenital."

It is found that rupture prevails most among those whose occupations involve strong muscular efforts. Rupture may come on gradually, or, suddenly, during some violent exertion. When its formation is gradual, it is preceded by some amount of pain and fulness in the part; at last, or when its invasion is sudden, a decided swelling generally shews itself, more or less painful, varying in size, and elastic or somewhat doughy under the pressure of the fingers; the swelling becoming tense and larger, and as it were pushed forward, when the person coughs or sneezes, and usually disappears during lying down in sleep. It is proper however, to caution our readers against the supposition, that rupture must *always* be accompanied with swelling; sometimes the tact of the experienced surgeon is insufficient satisfactorily to detect the tumour, especially in stout people, and he is forced to base his treatment upon the general symptoms, when that accident which constitutes the danger of rupture occurs, that is when rupture becomes "strangulated," or assumes such a condition that it cannot be returned into the abdomen, and is so tightly grasped at its "neck," by the sides of the ring or opening through which it is protruded, that the natural functions of the part are interfered with. A rupture may assume this condition at any moment, if it be permitted—for want of a truss—to continue "down" as it is usually called, that is in a protruded state. When a rupture becomes strangulated, distressing symptoms very quickly follow; all motion of the bowels downwards is prevented, and their natural movements becoming inverted, their feculent contents pass upwards into the stomach, and are rejected by vomiting; at the same time, there is severe pain, especially of a dragging character, from the back; there is thirst, and depression of the bodily powers. If the above state of matters be not speedily rectified, either by the return of the bowel into the abdomen, or by a cutting operation, the person speedily dies; generally, in consequence of the protruded portion of bowel becoming mortified.

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* See footnote—Article, "Quack."

It is needless to remark, that upon the first symptoms of strangulated rupture shewing themselves, efficient medical advice should at once be sought. Every minute is precious. Until medical assistance arrives, however, some methods of relief may safely be tried.

When a surgeon first sees a case of strangulated "hernia" or rupture—if it has not been of so long continuance that he suspects the possibility of the bowel having become tender, and liable to be burst—he makes an effort to return the protruded bowel; this effort, conducted in a peculiar manner, is technically named the "taxis," it is in fact skilful manipulation. The first step in the exertion of the taxis, is to place the individual in the position most favourable to the return of the bowel, this position is the horizontal one, with the shoulders half raised, and the legs and thighs bent upon the body, so as to relax as much as possible the walls of the abdomen, and the rings through which the rupture passes, and by which it is so tightly constricted. The above position having been assumed, the neck of the rupture, that is to say, the portion of it next the opening, from which it protrudes, is to be compressed by the fingers of the left hand, with moderate firmness, whilst the right hand is used as gently as consistent with the requisite effort, to knead, or mould as it were, the protruded bowel through the opening. At first, this process perhaps seems to have little, if any effect, but if the rupture is returnable at all in this way, and if the taxis is properly made, after a time, a perceptible diminution of the swelling takes place, which goes on till at last the rupture passes suddenly as it were, back into the abdomen, frequently with a gurgling sound.

Such is the process of reducing a rupture by means of the taxis, it is one which, to perform well, requires both skill and practice, but it is one which may be safely tried for a short period, by an unprofessional person, if medical aid is far distant in point of time, indeed, it is a process, which persons who have suffered from rupture for some time, not unfrequently perform for themselves. In a case of strangulated rupture, if medical assistance is quickly procurable, the best course is, with exception of laying a person in the horizontal position, and the administration of twenty or thirty drops of laudanum, to leave the case entirely alone, and to avoid handling the swelling, for this only places it in a more unfavourable condition for the manipulations of the surgeon. When however, as said before, medical aid is far distant, the taxis may be tried, but must not be continued for more than twenty minutes or half an hour. In almost all cases, efforts are made by the patient, or by the persons around, to return the rupture; it is better that these should be made in an intelligent and efficient manner. If, by the taxis simply, the surgeon does not succeed in "reducing" a "strangulated hernia," he probably has recourse to other methods, with a view of assisting it. These methods are such as either assist the relaxation of the muscular parts around the rupture, or such as tend to diminish the size of the swelling.

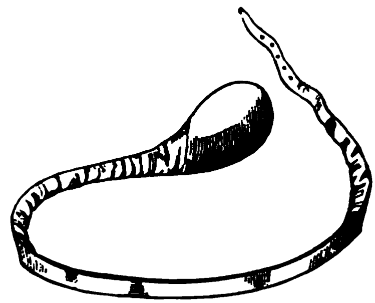
To effect relaxation, the surgeon may bleed, may give nauseant medicines, may administer chloroform, or opium, or put his patient in a warm bath, till faintness comes on, when he again has recourse to the taxis. Many of the means had recourse to by a medical man, are of course quite inadmissible for the unprofessional, the two last mentioned, however, they may use, carefully.* Opium given so as to affect the system, will sometimes greatly facilitate the reduction of a hernia; for this purpose twenty drops of laudanum, or one grain of solid opium, may be given to an adult, the former every hour, the latter every hour and half, till three doses have been administered, taking care, of course, after the second dose, that the system does not seem too powerfully affected. The warm bath will generally produce faintness in less than half an hour; during the condition an attempt should be made to return the rupture; some surgeons, however, object to the use of the warm bath.

The chief means of facilitating the return of a rupture, by reducing the swelling, is the application of cold. For this, the best agent is snow, or pounded ice, put in a bladder, which is laid upon the swelling. If snow or ice are unavailable, cold may be artificially produced, by mingling five parts of muriatic acid, with eight parts of glauber salt, in powder, or by mixing two parts of oil of vitriol, with two parts of water, allowing the mixture to cool, and then mingling with five parts of glauber salt, or by mixing equal parts of muriate of ammonia and nitre — saltpetre — in water. Cold may likewise be produced by the continued evaporation of ether dropped upon a piece of lint laid over the swelling, or the cold douche may be used with advantage. Under the continued application of cold for from half an hour to an hour and half, a rupture may possibly "pass up," without any manipulation at all, if it does not, however, manipulation should be tried.

Such are the principal means which may be resorted to, by unprofessional persons, in the event of a case of strangulated rupture occurring at a distance from medical aid; they are pointed out, not to induce any one to hazard one moment's delay in procuring proper assistance, but as a resource, when that assistance is far distant, and when the suffering and danger of this serious affection render it advisable not to wait, entirely, its arrival. In a case such as might occur, when a surgeon could not be procured for many hours, it might be some days, the author thinks the treatment by opium, most calculated to relieve, it is at least, that most likely to afford comfort to the patient under so fearful a contingency. If the stomach will not retain opium given by the mouth, it can of course be administered in clysters.†

It sometimes occurs that purgative medicines are administered in cases of rupture, this should never be done, they may greatly increase the distress of the patient, and they afford very little chance of relief—neither can any good, but only harm result from frequent efforts to return the rupture by manipulation after the first well-directed efforts have failed—neither is it well to be too hasty in giving purgative medicines after a rupture which has been strangulated is reduced, very frequently the bowels act of themselves soon after, if they do not in the course of a few hours, a clyster, or a gentle dose of castor-oil, or of rhubarb and magnesia, will be the most suitable aperients. The fact must be kept in mind, that after the existence of strangulated rupture, there is always danger of inflammation of the bowels generally, and that consequently, perfect quiet, and low diet for several days is requisite. As soon as from the symptoms as detailed in the first part of this article, any one suspects he is ruptured, *however, little inconvenience he may suffer*, not a day should elapse without medical advice being *sent for*. Till this is obtained, quiet in bed is the safest plan—many a rupture has been strangulated in a long walk to the doctor. The same rules should be observed after the reduction of a rupture which has been strangulated. Every minute in the upright posture, passed without the protection of a truss, is one of peril. If there is any necessary delay before a proper truss can be procured, a pad composed of cloth, wrapped round some firm material, and held in its place by a spica bandage—Fig K—Art. *Bandage*—will be of some service during

B



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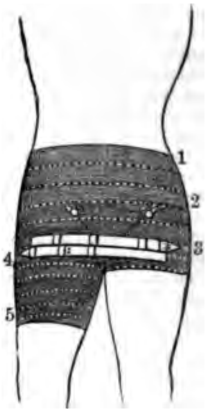
[*] Chloroform has been of the greatest service in allowing of the speedy reduction of ruptures, when a patient is put thoroughly under its influence. In fact, medical men now generally trust entirely to it. Chloroform is administered, and if the bowel cannot then be returned by the surgeon, he distrusts all other means and proceeds to operate.

[†] Raising the legs higher than the body, by placing the bent knees over the shoulders of another person, has been said to aid the return of a rupture in some cases.

the confinement to bed. The selection of a truss, is always better left to the judgment of a medical attendant. Where price is an object, the old form of truss—fig. B—may be used, it answers extremely well; in some cases; however, a Salmon and Ody's truss, somewhat similar to—fig. A,—but modified to fit the groin, is found more useful. The peculiar feature of this truss is, that the circular or oval pad is attached to the spring by a ball and socket joint. In some persons, owing to flatness of the back, it is difficult, almost impossible, to make a spring truss fit at all; for such and other difficult cases, the spiral supporters of M. Bourjeaurd, fig. C. may probably be found of use. There are many advantages connected with this elastic form of truss, particularly the extended support which it gives to the walls of the abdomen, at those parts where they are weakest, and most apt to give way. This, it need scarce be observed, the simple steel springs cannot do. The use of air pads, is an additional comfort. In the case of labouring men, and others, who perspire much, the springs of the steel trusses are constantly breaking, in consequence of the corrosion caused by the sweat. The author has suggested covering the springs with sheet gutta percha as a preventive. In a few cases, it is necessary to wear a truss even during the night, for some time at least, but generally it may be dispensed with during the horizontal posture, being put on before getting out of bed. It is important that a truss fit well, otherwise it is of little actual service, and is apt to cause excoriations, &c.; it is also requisite that the strength of the spring be proportioned to the nature of the case. Further, it is important, that the truss is not put on whilst any of the hernia is "down." When as sometimes happens, a rupture is "irreducible," that is, cannot be entirely returned within the abdomen, a bag truss suited to the nature of the case is requisite. The causes of rupture are various; in one sense it may be said to be hereditary, that is, some individuals inherit a tendency to weakness about those parts, which are the usual seat of rupture. The direct causes are such as induce undue pressure by the walls of the abdomen upon its contained viscera, hence the disease is most frequent among those who have to make strong exertions. Soldiers whose belts compress the upper part of the abdomen, and cavalry soldiers, who at certain times ride without stirrups, are not unfrequently the subjects of the disease. It is also brought on by hard riding, or by leaping in the hunting field. Hence, those who are in the least liable, should avoid all such causes; and those who wear a truss, should bear in mind, that if the natural support has given way, the artificial may also. It may become a question with a ruptured individual, how far the hazard of sea-sickness, and the consequent mechanical action of vomiting is to be incurred. Strict attention to the state of the bowels is imperative, by all who are the subjects of rupture, more especially, as nothing is more likely either to cause, or to aggravate the affection, than the straining of constipation; at the same time strong purgatives are not advisable. The danger of a rupture is not in proportion to its size; when small and recent, it is more liable to become strangulated. Ruptures may of course occur in both groins of the same person; in this case a double truss is requisite.

C



When rupture in the groin occurs in infants, it is usually of considerable size, descending into the scrotum, and becoming very tense whenever the child cries. In the early periods of life, spring trusses cannot very well be worn, those made of elastic material will answer best, frequently no truss is used. Strict attention to the bowels, and bathing the loins of the child every morning in cold salt water, will do much to prevent the disorder getting worse, and will sometimes effect a cure.

RYE.—This hardy grain possesses a nutritive power about equal to that of barley.

It has slight aperient properties. The chief point of interest connected with this grain is the peculiar diseased or fungus growth—the Ergot of Rye—which is apt to be developed upon the seed.—See *Ergot.*

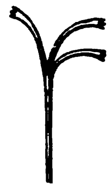
SACCHARINE—of the nature of sugar.—See *Sugar.*

SACRUM—or Os Sacrum—is the bone of the pelvis, which fits in like a wedge between the two irregular lateral bones; upon it the spine rests.—See *Pelvis.* The bone derives its name from having been formerly offered in sacrifices, whence it was considered sacred.

SAVINE.—See *Juniper.*

SAFFRON—is procured from the blue autumn flowering crocus, which is cultivated extensively for the sake of the drug, both in this country and in France, Spain, &c. In the centre of each crocus-flower rises the "style," which terminates in three wedge-shaped, notched divisions—fig. A.—which are called "stigmata"—these stigmata, with a portion of the upper part of the style, constitute saffron, being clipped off when fully developed, and dried carefully. Saffron is sold either in the form of "hay saffron," or of "cake saffron," the former being composed of the loose dried stigmata, the latter of these parts beaten into a cake, before they are quite dry. In Eastern countries, saffron is still largely used medicinally; in this, except as a colouring matter, it is little employed. It is stimulant and anti-spasmodic. Saffron is liable to much adulteration.*

A



SAGE—like other plants, which contain essential oil, is stimulant and carminative. It is a good deal used domestically in the form of "tea" or infusion, especially as a gargle, combined with vinegar.

SAGO.—This well-known dietetic article is the produce of various species of palm-tree, being obtained from the cellular substance contained within the stems of that tribe of plants. The stem is split, the cellular substance scooped out, and stirred up with water to separate the fecula or starchy matter, which, while suspended in the water, is passed through a sieve, then allowed to subside, and, being dried, forms the "sago meal" of commerce. This sago-meal, after having been made into a paste with water, "granulated," and again dried, constitutes the sago of the shops; common or "brown sago," or white or pearl sago, according to the mode of preparing. Sago is nearly pure starch, and closely resembles arrow-root—for which it is a frequent and cheap substitute—in composition. The remarks made upon the nutritive properties and dietetic uses of arrow-root, apply equally to sago, the chief difference is in the former being the more agreeable preparation of the two, and requiring a somewhat different mode of cooking.—See *Cookery.*

Refer to—*Starch.*

SAINT ANTHONY'S FIRE.—A popular name for erysipelas.—See *Erysipelas.*

SAINT VITUS'S DANCE—known to medical men by the name of "Chorea," is a disease strongly indicative of nervous disorder, its precise nature, however, is at present obscure. Probably it may be occasioned by direct causes, that is, by causes seated in the great centres of the nervous system, or by indirect causes, which act by "reflex action,"—see *Nervous System*—in the same way that teething in infants produces convulsion; that is to say, irritation in some portion of the body, as in the bowels, may, in the first place, give rise to functional irritation of the brain and spinal chord, which irritation, acting as if its original seat was in these great centres, is "reflected" on the body generally, or, at least, upon some portion of it, causing the irregular muscular movements of the disorder in question. St. Vitus's dance is, for the most part, a disease of youth, occurring before puberty, and usually disappearing at that period of life, if it has continued so long. It is more common in girls than in boys in the proportion of three to one. It may, however, continue into adult life. It rarely proves fatal; indeed, in those subjects of the disease who have died during its existence, it has been a question whether death has not been the result of other co-existing maladies.

The most manifest symptom of St. Vitus's dance is continued involuntary actions of the voluntary muscles, to a greater or less degree. The extent of the muscles affected, and the intensity of their affection, varying with the severity of the disease. The movements, however, generally cease entirely during sleep, and in all cases certainly are diminished. The ordinary voluntary movements are still capable of being performed after a fashion; that is, in an unsteady, uncertain, and somewhat grotesque manner. It seems as if, after the voluntary impulse had been communicated to them, an additional involuntary one interfered to throw the limb or other part out of the usual steady movement.

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[*] Saffron is used as a component of the Aromatic Powder of the British Pharmacopœia. There is also the Tincture, called Tincture of Crocus.

The disease generally commences with twitching about the face or neck, or in a particular limb, gradually extending to one side of the body, or to the whole body, as the case may be. Pain is seldom complained of, but it does sometimes occur in the head. The appetite may remain quite good, but the bowels are possibly confined, and their secretions unhealthy. To this depraved state of the bowels, or to constipation, or to the presence of worms, the disease is often traceable; in females, it is not unfrequently connected with the menstrual function, especially if it be delayed, or imperfect. The irritation of the coming of the second teeth has been assigned as a cause; and there is no doubt that imitation, especially among females, may spread the disease, which is most general, as might be expected, in persons of a nervous tendency; and it is said, those with dark hair and eyes are more liable to it than those of a blonde complexion. The duration of the attacks varies from ten days or a fortnight to months; but having once existed, it is, up to the age of puberty at least, apt to recur, or to be reexcited.

As regards the treatment of chorea, the best plan is, as soon as possible to submit the case to a proper medical examination, for, as already explained, it may be dependent merely on some casual irritation, which skill will at once detect and remedy. The disease, moreover, is one devoid of danger, and as there can be no question that many cases of it will get well without any treatment at all, it evidently is better without active unprofessional interference.[*]

Dr. Watson says, that when pain in the head exists, he finds benefit from the moderate abstraction of blood by leeches, and if *persistent* pain does exist, the application of four or five leeches might be had recourse to, if the individual is of full florid habit. In any case, no harm, but almost certain benefit, will result from acting on the bowels freely, more moderately, of course, in a weak subject than in a strong one. For this purpose, the compound colocynth pill simply, or combined, for two or three doses in succession, with calomel or blue pill, will be of service, or the blue pill and black draught, or compound decoction of aloes draught may be given. After the bowels have been well cleared, if the subject of the disease be weak and pallid, iron will be required. In the disease in question, the red carbonate of iron, as given by Dr. Elliotson, has been found extremely useful in large doses, from a drachm upwards, given twice or three times a day; other preparations of iron, however, may be given, or quinine. The author has found the oxide of zinc of much service, but these are remedies which ought to be given under medical sanction. The shower-bath is often serviceable in St. Vitus's dance, but for some individuals the shock is too powerful, and seems rather to increase the disease; for such, the douche down the spine may be substituted. In all cases, attention to the general health is required. Good diet, exercise, change of air, and attention to the hours of sleep, and to free ventilation of sleeping rooms, are all circumstances to be kept in mind in such cases.

Refer to—*Convulsion*—*Nervous System*, *&c.*

SALADS—generally, being composed of raw vegetables, are unsuited for persons of weak digestion; when, however, the stomach is capable of digesting them, the general effect on the system appears to be beneficial, particularly in salads derived from the tribe of the cruciferous plants, to which the water cress, radish, mustard-cress, scurvy-grass, &c. &c. belong.

Many persons with whom raw vegetables, such as salads, cucumbers, &c., invariably disagree, if eaten "undressed," find the addition of the ordinary salad, or "Florence" oil, correct the tendency. In this country, some individuals have a prejudice against the use of oil. It is difficult to see why it should extend to the beautiful preparation in question.

SALEP—is prepared from the bulbs of the orchis *mascula*. It is imported chiefly from the Levant, but some is brought from India. It consists of a peculiar kind of gums, termed bassorin and fecula. It is more nutritive than either arrow-root or sago, and consequently is better adapted for the convalescent than for the sick. It is prepared by dissolving the powdered salep in hot water, with assiduous stirring, and adding to the solution sugar and milk[†]

SALICINE—is a "peculiar bitter crystallizable principle," obtained from the bark of the willow, or of the poplar. In some respects it resembles quinine, and has been brought forward as a cheap substitute for that expensive medicine, especially in the treatment of ague, neuralgia, &c. That salicine is a most excellent tonic remedy there is no doubt, one moreover, which is applicable to cases in which quinine is inadmissible, the former remedy being less likely to heat, or to cause headache; in such cases, however, as ague, or neuralgia, it does not seem to exert the same powerful curative effect, although it might well be its prepared form, or in the nfusion of the willow bark bsence of quinine or of cin- The dose of salicine as a tonic, two grains given as a powder, water, or if a stimulant be lved in a little sherry. For hould be given in the same ne.*

[†] Thomson's *Sick Room*.

[*] Recent investigations have demonstrated, beyond a doubt, that this disease is intimately connected with the presence of the Rheumatic poison in the system, which is an additional reason for at once submitting the case to a medical opinion, in order that it may be determined if the disease is due in any way to the above cause.

— or salts are distinguished dies by their general proper- ustibility, aptness for combi- eculiar taste generally known te. Salines are better illus- many well known examples, on salt, potash, soda, Epsom n by any description.

or spittle, the fluid which nouth, is secreted by glands, nd that cavity. These glands each side. The principal, or — see *Parotid* — is situated angle of the lower jaw, the secreted by it, being conveyed th by a duct, which opens um of the upper jaw and the te the second double tooth. ary gland lies deep below the ct opening by the side of the of the tongue, just behind the front "incisor" tooth of the Where the duct opens there ble eminence, from which, dividuals gape, a small jet of be projected at least a foot outh; this is caused by the ed in gaping, compressing the duct. The third salivary sublingual," lies partly just ct of the last mentioned, its onveying the saliva into the to the other. As, therefore, are situated on each side of ere are six salivary glands in a, or spittle, for the supply h ample provision is made, t one per cent. only of solid consists partly of animal and partly of saline. The ents are similar to those con- blood, with the addition of a sulphocyanide. The animal wn by the name of "ptya- les in action the vegetable iastase" in possessing the verting the starchy consti- food into saccharine aliment *m.*—When food is not being retion of saliva is very greatly d in sleep seems to be almost ogether; no sooner, however, ment of hunger by food commenced—and indeed, previous to the food being taken—than the flow of saliva begins, the secretion continuing to be poured out as long as the meal continues. The amount of saliva, secreted in the period of four and twenty hours, has been estimated at from fifteen to twenty ounces, but it is very difficult to ascertain the precise quantity, and probably it varies.

The importance and the functions of the saliva in the process of digestion, have been variously estimated by different observers. Its action upon starchy matter, has been already noticed. The experiments of Dr. Wright of Birmingham, detailed in his valuable papers on the saliva, tend to shew that its alkaline properties are necessary to the perfect fulfilment of the digestive process generally. Dr. Wright observed, that after a full meal, the saliva became more strongly alkaline, and that if, instead of swallowing this alkaline saliva, he spat it out, there was manifestation "of abundance of acidity, with much pain at the stomach," but that if he neutralized the acid on the stomach, by a dose of carbonate of soda, the alkaline condition of the saliva quickly diminished, as if, being no longer required, the alkalinity was withdrawn. The saliva, however, is not constantly alkaline, it is frequently acid, especially during fasting, the acidity has been attributed to the mucus of the mouth, with which the secretion is necessarily intermingled. Dr. Wright performed a variety of experiments with the view of determining the influence of the saliva in the digestive process. From these experiments he formed the following conclusions.

"That saliva has the power of modifying, and to a certain extent of digesting vegetable and animal substances.

"That it has a more powerful action upon vegetable than upon animal matters.

"That acids or alkalies, added to saliva diminish or destroy its digestive properties

"That the presence of saliva in the stomach is essential to healthy digestion."

Of course the saliva performs other functions beyond the simple assistance of digestion, it facilitates especially, all the movements connected with mastication, and speech. The "tartar" which accumulates about the teeth, is a mixture of the earthy salts and animal matter contained in the saliva.

The influence of the mind upon the secretion of saliva is very considerable, the popular saying of the "mouth watering," at the sight of tempting food, is an illustration of its increase from this cause, its diminution under the influence of painful emotion, such as fear, is well ascertained, and indeed, in some Eastern countries, is practically acted upon as a means of detecting crime. If a crime, such as a theft, is committed, and a number of persons such as a staff of servants, are generally suspected, the whole of the suspected are placed together, and caused to chew and then spit out a handful of rice, in the presence of the examiner; it is said that such is the feeling in these countries with regard to the test, that the fear of the real criminal diminishes the secretion of his saliva to so great an extent, that the portion of rice chewed by him remains comparatively unmoistened. There is a peculiar affection of the salivary secretion, to which some dyspeptic persons are liable, which the author has never seen described in any medical work, and which he believes is generally confounded with pyrosis or water-brash; it consists of the rapid flow of a quantity of limpid saliva into the mouth, or from it, in a stream, if permitted, accompanied with a sense of constriction about the jaws; the flow continues for a minute or two at a time. It is generally preceded by symptoms of indigestion, of heartburn, or of irritation in the stomach. It is in fact a symptom of indigestion, and an instance of "reflex" action—see *Nervous System—Indigestion*—or of irritation in the stomach acting upon the salivary glands, which seem to be peculiarly susceptible to irritation from such causes. The above remarks upon the uses of the saliva, may explain in some measure, the disordered digestion, from which many smokers, who waste this fluid, suffer. Indigestion is a very common malady in America, and may in part be occasioned by the well known habit of "spitting," peculiar to the country.

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* Salicine has been omitted from the British Pharmacopœia.

SALIVATION—is the excessive secretion of saliva from any cause. The term is best known in connexion with mercurial salivation — see *Mercury* — salivation may however arise from other causes, a course of iodine medicines may occasion it, and nitric acid has the same effect, it also arises from constitutional causes. Salivation, that is, simple increase of the flow of saliva, is not an unfrequent concomitant of the first stages of pregnancy.

Refer to—*Indigestion*.

SALMON.—Like the other oily fishes, is less digestible than white fish generally, for persons of weak stomach. Like other articles of food too, which contain oil, it is apt to prove highly injurious, if eaten in a state of decomposition. Indeed, death has been the result of a meal of pickled salmon which had become somewhat decomposed.

SAL PRUNELLE—is saltpetre, which has been fused by heat, and cast in a mould [illegible] generally of a globular form. The preparation is used by some persons in incipien[illegible] sore throat, with advantage; the ball o[illegible] the salt being allowed to dissolve graduall[illegible] in the mouth.

*SALT.—The term salt is applicable t[illegible] saline matters generally—See *Salines*—i[illegible] this article, however, it is regarded in it[illegible] conventional acceptation of "common salt, [illegible] as used in daily life. Common salt is [illegible] compound of soda and muriatic acid, or [illegible] another view, of chlorine and sodium a[illegible] water. It is therefore either a muriate [illegible] soda, or a chloride of sodium with wat[illegible] Indeed, common salt, is one great sou[illegible] whence the soda of commerce, now so che[illegible] and so extensively used, is obtained. [illegible] *Chlorine—Soda*, &c.

Common salt is most generally procu[illegible] either from the salt mines, such as tho[illegible] Cheshire, from saline springs, such as e[illegible] in America, or in Germany, or from [illegible] water; in the two latter cases, by evap[illegible] tion. However, obtained in the first [illegible] stance, salt, generally, requires to be p[illegible] fied from other saline ingredients, [illegible] which it is usually mingled, and which [illegible] p ticularly, interfere with its keeping pro[illegible]pe ties, causing it to become moist. Of [illegible] la years, the finer descriptions of salt [illegible] hav become so cheap that the coarser kind[illegible] ar scarcely seen.

As regards the use of salt as a co[illegible]ndiment, or as an addition to food, by [illegible]an, there can be no doubt as to its bene[illegible]cial effects; indeed, the desire for salt, se[illegible]ems almost to be instinctive, as a necessary [illegible] for health. In countries at a distance from [illegible] the sea, and where from the absence of sa[illegible]line springs, salt is difficult to procure—a[illegible] in the interior of Africa—it is most hi[illegible]hly prized as a necessary of life. Many [illegible] vellers have described a temporary deprivation of salt as one of their gre[illegible]test hardships; and, to descend to the lo[illegible]wer creation, the way in which the salt spr[illegible] or "licks" in America, are frequented b the wild animals, is evidence of instinc[illegible] desire; and, indeed the eager devourin[illegible] salt by, and consequent improvemen[illegible] condition among domestic animals, s[illegible] ciently testify, if not the absolute neces[illegible] for, at least the great benefit arising f[illegible] the admixture of salt with food. Salt, [illegible] questionably assists, and renders more p fect the process of digestion, moreover forms one of the constituents of the bl and of the body generally. If salt be de the digestion is weakened; the general and nourishment of the body are imp

* Sal Volatile, or Aromatic Spirits of Ammonia—see Ammonia.

and it is observed, that worms are more likely to be generated in the intestines. Salt, therefore, ought to be an addition to the food of all, and attention should be paid to children in this respect; they should be made to eat a certain proportion of salt with their food—their greater liability to be infested by worms than adults, is an additional reason.

It is, however, a very different thing, to eat salt with food, and to live upon meat or fish, which has been salted. In the latter case, it is well ascertained, that certain chemical effects are exerted upon the meat and its nutrient constituents, by the salt, which modify considerably the nutriment afforded to the body.—See *Preserved Provisions.*—Indeed, the effects of a continued diet of salted meat are most injurious. —See *Scurvy.* The exclusive and continued use of salted provisions, is here alluded to, not their moderate occasional employment. Salt may almost be regarded as medicinal in some cases of convalescence, in which the craving for it becomes intense. It should be allowed. It appears to act as a tonic. From one to two ounces of salt dissolved in half-a-pint of water, forms a good, and not unfrequent domestic emetic. It may however purge, instead of causing vomiting. It is used in the form of clyster, to destroy worms. The occasional use of salt in the treatment of typhus fever, and of cholera, &c., does not require notice here. Externally, salt is used in solution, generally as in sea or salt water cold bathing, in which cases it seems to exert a tonic effect; warm saline bathing is efficacious in rheumatism. For local bathing after injuries, such as sprains, &c., the salt water douche is well adapted to give strength. For the above purposes, a pound of salt dissolved in three gallons of water, is a good average strength. The "brandy and salt" application, so much in vogue some years ago, is of the same use as any other stimulant application. Salt is widely distributed throughout nature, forming a constituent of the animal and vegetable kingdoms.

Refer to — *Preserved Provisions, Sea, &c.*

SALT-MEAT—See *Salt—Preserved Provisions, &c.*

SALTPETRE — See *Potash Nitrate—Sal Prunelle.*

SALT OF TARTAR.—A purified subcarbonate of potash.—See *Potash.*

SAMPHIRE.—This plant, which grows on rocks close to the sea, is used as a pickle, and is about as wholesome as pickles generally.—See *Pickle.*

SANATORIUM* is an institution for the promotion and preservation of health, in contradistinction to an hospital, which is devoted to the cure of disease. The sanatorium is at present but little known, or brought into use, although probably it will become more so. The hospital for convalescents must be regarded as a sanatorium of the most useful description; and at the present time a sanatorium for consumptive patients is about being established at Torquay, in connexion with the Brompton hospital for consumption. The author, however, is not aware that these are on the plan suggested in this article, the nearest resemblance to which is the covered square of one of the London hospitals. The beneficial effects of winter residence in a warm climate, in some cases of disease, have been too well proved in numberless *individual* instances, to admit of doubt that such a change is not, in the cases adapted for it, in the highest degree serviceable; at the same time, doubt there cannot be, that change of climate, as it is usually resorted to, has been much abused, and that in numerous instances, uncalled-for sacrifices, not only of a pecuniary nature, but of the strongest feelings and affections of the human heart, are made, to give a beloved invalid the change of climate considered necessary for the restoration of health, or for the preservation of life. Not only doubt, but certain conviction, exists in many minds, that numerous cases which formerly would have been sent abroad, should now, and will now be kept amid home comforts and home affections, to live or to die; but it must be matter of thankfulness, that, when the hope —too often the delusive one—of that last resource of "climate" is, to say the least, weakened, another and a better one is likely to open up, one which involves neither severance from home nor friends, and one which may be made the resource of the indigent as well as of the rich. The resource is the glass-covered sanatorium—the acres of pleasure and of exercise-ground, under a climate which may be rendered more certain and genial than any open to the winds of heaven, which may be accessible to the delicate, and to the invalids, during a winter season in Britain. The various arrangements under which a glass-covered sanatorium may be made available, are very palpable. With such a building as the new crystal palace at Sydenham, it might be possible to *connect* the villas of the wealthy, in which, invalids, though resident in the houses, and mingling in the society of their own families and friends, might yet enjoy the free but genial atmosphere, and extensive grounds of the magnificent erection. But, even without the magnificence, wide extension, and consequent expense of such a fabric, it would be very possible to inclose glass-covered spaces of one, two, or more acres in extent, into which the windows of some of the apartments of adjoining houses might open, apartments to be occupied by the invalids, whilst the rest of the house, for a family generally, has the ordinary aspects and arrangements. Or under another construction, detached houses, or sets of houses, might be connected by covered glass or other passages with the general glass-protected garden, or promenade, or climate, as it may be named. The varied arrangements of which glass structures, for the benefit of consumptive and other invalids in this country, are capable, need not be entered into here; the possibility of such structures is certain, not less so, perhaps, the fact of their wide adoption in years to come; but, amid the various plans for glass structures in the vicinity of our large towns, for the purposes of pleasure or instruction, the author has regretted to see little or no notice taken of their important availabilities as regards health; their capability of supplying a great want, of serving as an antidote to our comparatively rigorous climate, which so often presents the apparent necessity of the young, and the delicate, seeking a home, and too often finding a grave, in a foreign climate, exposes them to the depressing, and therefore necessarily injurious, influences which severance from home scenes, home comforts and society, and home affections, cannot fail to produce in a greater or lesser degree.

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* A Joint Stock Company was very recently originated for the construction of a Sanatorium, upon almost precisely the same principles as were enunciated in the following article ten years ago.

It would be possible to dilate greatly upon the advantages offered by the glass sanatorium—perhaps enough has been said for the purpose.

SANITARY, or Sanatory — regulations and observances are daily acquiring more importance, both in a public and in a private point of view. The "Commissions" and "Reports" commanded and issued by Government, the numerous publications which are appearing upon the subject, attest the growing interest; but much, very much, yet remains to be done, the movement is as yet but in its infancy, and if its growth and development do not progress more vigorously than they have yet done, not this generation only, but the next, will be in their graves before sanitary improvement has gained any approach to maturity. The fact is, although the interest on the subject is increasing, it is as yet confined but to a few; there *are* a few honoured names among the aristocracy associated with the principles of sanitary reformation, and many of the medical profession, and a few of the more intelligent middle classes, have given it their hearty aid, but the great mass of our citizens heed it not, and are indeed profoundly ignorant of the subject.

The principles of sanitation ought to be made part of all modern education; there are no situations of life in which they would not be useful, in some they would be invaluable. A more extensive acquaintance with them, on the part of the clergy especially, would greatly add to their means of usefulness in their visits amid the poorer classes. A step in this direction has lately been taken in the delivery, before the theological students of King's College, of an admirable course of lectures upon "hygiene;" by Dr. Guy, an addition to the ordinary routine of education which cannot be too highly estimated. In fact, before long, no educated man, in any position of life, especially if he has, either by courtesy or by appointment, influence or command amid his fellows, can with propriety be ignorant on these subjects[*] Attention to the principles and practice of sanitary observances and regulations, included under the single word "Hygiene," is so constantly enforced in the present work, that further notice here would be superfluous. The articles more especially devoted to sanitary matters to which reference should be made, are—

Acclimation—Air—Bed and Bed-room—Chimney — Climate — Clothing — Cold — Contagion—Damp—Diseases—Drainage—Education—Exercise—Food — Grave-yards —Heat—Houses—Life—Light — Putrefaction—Recreation — Skin — Sleep — Temperance — Town — Training — Ventilation — Walls—Water, &c.

SARDONIC SMILE, or Grin—is a peculiar characteristic expression of countenance, which occurs in some diseases. The corners of the mouth are retracted, and the teeth exposed.

SARSAPARILLA—is the root of a tribe of creeping plants, natives of Central America, and of Northern South America. The drug is brought to this country in the form of the roots, tied up in bundles, which are distinguished by various characteristics, according to the place from whence they are imported. These roots are cut up into chips for retail selling. Medical men are greatly divided in opinion, not only as regards the medicinal properties of sarsaparilla, but as to whether it possesses any medicinal properties of value at all: while some contend[†] that if the root itself has medicinal power, this is destroyed by the usual modes of preparation. However the truth may be, sarsaparilla is not a medicine likely to be used domestically, that is without medical prescription; and when it is employed, it will be most efficaciously so as sold in some of the usual prepared forms of extract, infusion, decoction, &c. The decoction is ordered to be made by digesting five ounces of sarsaparilla chips in four pints of water, kept just below boiling, for two hours; the chips are then to be taken out, bruised, replaced, the whole boiled down to two pints, and then squeezed and strained. The dose of this preparation is from two to four ounces.*

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[*] The Chair of Hygiene is deservedly made one of the most important in our great military medical schools.

[†] One celebrated professor of surgery has given it as his opinion, after a long and careful trial, that it has no more virtue than infusion of hay. If this be the case it is to be regretted that some of the London Hospitals have expended many thousands of pounds upon this drug.

SAUSAGES—generally speaking, are indigestible as an article of diet, but they chiefly demand notice here from the liability, especially of some of the German forms of the preparation, to undergo a peculiar kind of decay, by which they are rendered highly poisonous; indeed, the thing goes by the name of the 'sausage poison.'† Many hundred deaths have occurred from this cause in Germany. The sausages in question are generally made of liver, blood, with fat, &c., salted, and spiced, and smoked, and if properly prepared, keep well, and are wholesome for months. If badly prepared, they undergo the poisonous putrefaction, which is probably analogous to that which takes place in some descriptions of cheese, in bacon, salmon, and other oily articles of diet. The symptoms of poisoning from sausages are not very quickly developed; they are similar to those described under article *Putrefaction*.

Refer to—*Putrefaction*.

SCABIES—the ITCH.—See *Itch*.

SCALD.—See *Burn*.

SCALD-HEAD.—See *Scalp*.

SCALP.—The skin of the head is tolerably thick and firm, and is connected to the parts immediately subjacent, by a rather loose cellular tissue. These circumstances often give a peculiar character to the effects of violence, and to wounds of the head, for the skin being firm, and the cellular tissue being easily torn, large portions of the scalp are occasionally separated in flaps, either entirely or partially. When, as the result of violent accident, a portion of scalp is separated, the best thing that can be done by a bystander is, provided grit or dirt have not been forced into the wound, to replace the parts as nearly in their proper position as possible. This will require a little care, for the skin is apt, from its own elasticity, to curl up. If the wound has got dirt in it, and if it is possible to procure surgical aid in the course of a few hours, the best plan will be to rest content with a superficial cleansing of the wound and adjacent parts, and then simply to lay the detached portion somewhat in its proper position, and to place over all a cloth wet with tepid water, till the arrival of the surgeon, who will clean the wound in the most effectual manner, a matter of some importance. If, however, surgical assistance is far distant, some one should endeavour, *carefully*, to free the wound of foreign matter, by means of washing with a soft sponge, and also by picking out small portions of gravel, or the like, if these are present, by means of forceps or tweezers. After the wound has been cleansed, the detached scalp must be fitted as closely as possible in its proper position; and if the hair around the wound has not been already clipped close off, this should now be done; in addition, it will be requisite in most cases to shave the scalp perfectly clean for some distance around. To retain the detached portion of scalp in its place, if it be large, two or more stitches, according to the size of the wound, may possibly be required—see *Wounds*—in addition to plaster; if the wound be small, strips of plaster laid evenly, so as to hold the edges together, will probably be sufficient; but in any case, in order that these may retain their hold, the hair must be shaved clean off. After the plasters are applied, a piece of lint, double, and wet with simple soft water, is to be laid over the wound, and over this, to retain all in place, a bandage of some kind. A handkerchief applied as represented—fig. E, article *Bandage*—will generally answer every purpose, or a cap may be made to fit close upon the head; indeed, the cap or the handkerchief are better than any regular bandage, and are generally more accessible. After the wound has been thus dressed, the person who has suffered from it, should, whether feeling ill or not, go to bed, keep perfectly quiet on low diet, especially avoiding stimulants for some days, and, if of full habit of body, take a dose of common purgative. A few hours after the dressing, the wound will probably feel hot and dry, but these symptoms must be kept down by the use of cold water, used so as to soak through the dressings without removing them. In the course of two or three days, according to circumstances, the wound may again be dressed.—See *Dressing*. Simple incised wounds of the scalp are to be treated in a manner similar to the above, but of course they are less troublesome, the scalp not being detached. Some persons condemn the use of stitches and plasters, entirely, in the treatment of wounds of the scalp, and prefer the use of pads adapted, by bandage and otherwise, to retain a flap in its place; it is doubtful whether this method could be applied by a non-professional person, at least with sufficient accuracy. Bleeding from wounds in the scalp is often profuse, especially if an arterial branch has been divided; it may, however, generally be stopped by the use of cold, or by pressure. Even when a very large portion of scalp has been detached, it is often marvellous how quickly and completely it becomes reunited to the other parts; at other times, however, portions of the skin die, leaving a granulating wound to heal like other wounds of the same kind. One chief danger to be apprehended after wounds of the scalp—independent of the violence to the brain which is often a concomitant of such accidents—is the occurrence of erysipelas, which may set in, spread over the head, cause extensive formation of matter under the skin, and perhaps destroy the patient. Such a case must, of course, be treated as erysipelas from any other cause; but if a medical man has not before seen the patient, he ought to do so now without delay; it may require all his skill to save life.

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* In some neighbourhoods where Sarsaparilla grows abundantly, near streams in Central America, the natives frequent the places for the purpose of bathing, and are said to derive benefit.

† See the appendix to this work—Article, "Trichinæ."

The scalp is often the seat of "encysted" tumours, which are at times conspicuous on the heads of aged people; they are perfectly harmless and painless, if they do not interfere with the wearing of the usual head covering. If desired by the possessor, their removal is simple. Soft fluctuating tumours beneath the scalp of infants, are sometimes met with immediately after birth, they generally disappear shortly, but it is better they should be examined by a medical man.

The scalp is the seat of different forms of eruption, or of skin disease, especially in children. It would be quite superfluous and useless, as far as the non-professional are concerned, to attempt to enter into the differences between these, although some of them differ greatly, or to give the various modifications of treatment: general observations are all that can be offered with any advantage. The first great object in eruptions of the scalp, is to get them under treatment as early as possible, the next to observe the strictest cleanliness. The variety and the obstinacy of the diseases in question, is a reason for placing them under proper medical treatment as early as possible. When this cannot be done quickly, the first step should be to examine the head thoroughly, that no affected spot be undiscovered; the next to clip the hair moderately short, and around the affected parts, perfectly close. If the eruption is extensive, it is better to cut the hair close off altogether at once. The hair having been removed by clipping, in preference to shaving, washing with good brown soap, with warm soft water, night and morning, is a process which will cure many a scalp eruption, especially among those classes in whom deficient cleanliness is often the cause of the evil. When this does not suffice, an ointment made with ten grains of the red oxyde of mercury to the ounce of lard, smeared slightly over the affected part, is often of much service. As long, however, as there are any scabs or incrustations on the head, there is no use applying either this ointment or any other application; these, therefore, should be removed in the first place by poulticing. In some kinds of scalp eruptions, such as scald-head, alkaline washes are often of service. Dr. Bennett, of Edinburgh, recommends in some forms of that disease a lotion, composed of two drachms of subcarbonate of soda to the pint and half of water, to be applied to the affected parts, by means of lint soaked in it, and covered with oiled silk. Very many applications for eruptions on the scalp are and have been used; but if a disease of the kind does not yield to the simple measures above detailed, a medical man should see the case; moreover, in some forms of scalp eruption, it is scarcely desirable that the eruption should be done away with, at least quickly, or without the constitution being acted upon by medicine; for it may happen that, after the disappearance or cure of a scalp eruption, a child has become the subject of convulsions, or of other affections of the brain.

In all cases of tendency to eruption on the scalp, the diet should be attended to, salted meats forbidden, and in those of full habit, the allowance of animal food curtailed, and milk and farinaceous diet substituted, more or less according to circumstances; on the other hand, in the weak and delicate, it may be requisite to improve the diet both in nourishment and stimulation.

In strong children, three grains of grey powder, given at bed-time, and followed in the morning by a dose of senna or other aperient, will often be useful; in more delicate children, half a grain of grey powder with two or three grains of carbonate of iron given twice a day for a week or ten days at a time, is a useful remedy. In all such cases, however, proper medical attendance is the best and safest plan.

When there is eruption on the scalp, the glands of the neck are liable to become enlarged and painful.

Refer to—*Erysipelas*—*Skull*—*Wounds.*

SCAMMONY.—This drug which belongs to the class of purgatives called cathartics is obtained from a species of convolvulus a native of the countries of the Levant. It is one of our most valuable medicines, but, from its high price, one of the most adulterated drugs in use; indeed, the scammony generally met with, does not contain above fifty per cent. of the pure drug, and the doses are generally regulated according to this; consequently, if pure, or, as it is called, "virgin," scammony was generally attainable, the doses would not be above half what they now are. Scammony is generally met with in the form of a greyish mass, or grey powder; the adulterations are chiefly chalk, flour, &c. Scammony acts as an efficient purgative without griping, and is not liable, if properly given, to produce violent effects; its certainty of action is however increased by combination with other purgatives, on this account it forms a valuable addition to the compound colocynth pill. For children, when free purging is required, scammony is remarkably well adapted, combined with small doses of calomel or grey powder; moreover its small bulk of dose, and the comparative absence of nauseousness, fit it for such administration. For a child of four years of age, four grains of ordinary scammony alone, or one grain and a half of calomel, or three grains of grey powder, with three grains of scammony, will prove a certain and active purgative. Scammony alone may be given rubbed up with milk in the form of emulsion.*

SCARF-SKIN or Epidermis or Cuticle —see *Skin*.

SCARIFICATIONS are deep scratches, or superficial cuts, made generally upon the skin, or upon a mucous membrane. The chief use of scarifications is to give exit to blood or serum, from parts in which there is an improper accumulation of either of these fluids. The scarification of the gums in children is not, as is often supposed, to assist the passage of the tooth, but to relieve the tension and inflammation of the gum by allowing the escape of blood from the overloaded vessels and tissue. Scarifications of other parts act in a similar way.

Refer to—*Children*.

SCARLATINA — and Scarlet Fever are both designations for one and the same disease, although an idea prevails, popularly, that the former is the name of a milder and less dangerous affection than the latter.

Scarlet fever belongs to the class of eruptive fevers; and is characterized by symptoms so well marked that it can scarcely be mistaken for any other disease, even by unprofessional persons. Generally, the first symptom complained of in the incipient stage of scarlet fever, is sore throat, either accompanied, or quickly succeeded by the usual symptoms of a feverish attack, shivering, headache, loss of appetite, perhaps vomiting, followed by heat of skin, quick pulse and thirst. The eruption appears early, on the second day after the first symptoms of indisposition; it first shows itself in the form of minute red points on the chest and arms, especially about the elbows, the points becoming more numerous, till they form one diffused surface of a tolerably bright scarlet eruption, which extends to the neck, face, and abdomen, and body generally. On the second day, when the eruption is appearing, the symptoms of general fever, and especially the heat of skin, continue unabated, the throat is more inflamed, and the tongue assumes the appearance characteristic of this disease. It is probably covered with a white creamy looking fur, through which the "papillæ" on its fore part, about the tip especially, project like red points; this appearance may continue, but in many cases, the fur comes off as it were in patches at a time, and ultimately leaves the tongue preternaturally clean and red, covered with the elongated papillæ, in some cases almost like a pile upon it. The eruption in scarlet fever, generally looks more patchy upon the extremities, than it does upon the trunk. In a moderately favourable case of scarlet fever, the eruption begins to fade between the third and fourth day from its appearance, and with it, the feverish symptoms, and other general symptoms of the disease, such as sore throat, &c. The patient of course is left weakened, but with moderate care, convalescence is for the most part speedy. The chief care is required until the desquamation of the cuticle, or peeling, is completed; during this period also the power of communicating the disease by contagion appears to be retained.

Although favourable · cases of scarlet fever pass through the course nearly as described above, there are much severer forms of the disease. The feverish symptoms from the first, may have a high inflammatory form; or the reverse, may give evidence of an extreme condition of bodily depression, with tendency to malignant disease, and to a putrescent or typhoid condition. In such cases the eruption is tardy, and when it does appear, patchy, and dusky in colour, the swelling of the throat is great, and if they can be seen, the tonsils are evidently ulcerated, the breath offensive, the tongue swollen, and swallowing difficult, if not impossible; offensive discharges take place from the nose, and at the same time there is evident extreme depression of the constitutional powers, with delirium. Between the comparatively mild form first described, so mild indeed at times as scarcely to constitute a perceptible disease, and the malignant, scarlatina is met with in every degree of severity. As a general rule, the severity or mildness of the attacks of scarlet fever depend greatly upon the type of the prevailing epidemic, which at one time may be so favourable, that almost every case does well, whilst at another, the greatest fatality attends it, and sorrowing parents see their children carried off one after another with fearful rapidity.

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* The 12th of a grain of Podophylline mixed with two grains of Scammony, makes a good and safe purgative for a child of three years of age.

The great variation in the severity of the attacks of scarlet fever must render the variation in the treatment equally great. When the form of the prevailing epidemic is extremely mild, little if any treatment is required, and many cases get none at all, not even confinement to the house, and certainly not to bed. This is not well even for the sake of others, and should the weather be ungenial, or should cold be taken, a mild affection may be at once converted into a dangerous disease. A moderately smart attack of scarlet fever requires, certainly, confinement to bed, in as well ventilated a room as possible, kept at an average temperature of 60° Fahr.; the diet should be kept low, and should consist of milk, farinaceous articles, &c., and the thirst may be freely indulged with diluent drinks; the patient must not be covered with bed-clothes, which will keep up feverish heat. If the heat of skin is great, and indeed in most cases of this disease, sponging the surface of the body with tepid water, with or without the addition of a little vinegar, is at once most beneficial and grateful to the patient. A gentle aperient should be repeated once or twice in the course of the disease, a table-spoonful of castor-oil, a dose of magnesia and rhubarb, or from half to a whole seidlitz powder, may be required, or in fuller habits or where fever runs high, a more active purgative still, of calomel and scammony, or in an adult, calomel or blue pill, and colocynth.

The common effervescing soda powders are often liked, and may be permitted in moderation to all; but more freely—and, indeed the salines generally—to persons of full habit. From five to ten grains—according to age—of chlorate of potash given every six or eight hours, in a little sugar and water, is one of the most appropriate cooling salines in this disease.

If the feverish symptoms run high, of course the lowering and cooling remedies must be more actively enforced. In most cases much relief is afforded to the throat by the frequent use of warm gargles, made either with simple gruel, or with gruel with one or two table-spoonfuls of vinegar to each half-pint. Externally, hot bran poultices, frequently renewed, are also of much service to the throat. When the throat is very much swollen, leeches may be requisite, but so much caution is called for in the abstraction of blood in scarlet fever, that this should only be done under medical sanction. Great enlargement of the glands around the jaw, and in the neck, must always be seriously regarded. When a case of scarlet fever presents symptoms of malignancy, every method of supporting the strength by wine, broths, &c., must be used, and the preparations of chlorine employed both internally, and as washes and gargles, to the nose, mouth, tonsils, &c. The chlorate of potash in from five to ten grain doses, must be given every three or four hours; or muriatic acid in five drop doses in sweetened water. Two drachms of the solution of chloride of soda, in the half-pint of water, will make a convenient wash, to be used with a syringe, if the child or person is unable to gargle.*

Although the above directions are given for circumstances which *might* render them useful, it is not with the idea that any one in their senses would have recourse to them, if medical aid could in any way be procured. The fearful rapidity of a fatal case of malignant scarlet fever, calls for the most energetic exertion of the highest skill, which is too often of no avail. After the eruption has faded, the person may sit up, and gradually return to fuller diet, such as pudding, broth, fish, &c., the bowels being kept free, but not purged, and close attention given to the state of the urine as to quantity and appearance. At this stage, too, much comfort and benefit will accrue from the use of two or three warm baths. These relieve greatly the discomfort arising from the harsh and dry state of the peeling skin, and what is more important, encourage and keep active its ordinary perspiratory functions, which are apt to be impaired or impeded, and thus to give rise to one of the most serious incidents connected with the disease in question, that is, to a dropsical condition connected with a disordered state of the kidneys. The occurrence of dropsy after scarlet fever is always a serious matter, and the possibility of it, a cogent argument for guarding against all those influences which, by interfering with the perspiratory function of the—for the time—morbidly susceptible skin, tend to induce it. It is observed, that the attacks of dropsy after scarlet fever, are by no means in accordance with the severity of the attack itself, and this is supposed to be, because those who have had only a mild attack, are more careless as to after-exposure than those who have suffered a severe one. However this may be, it is certain, that many who have passed safely through the disease itself, fall victims to the subsequent dropsy, purely as the result of carelessness on their own parts, or on that of others. The attacks of dropsy are most likely to occur from the end of the first fortnight to the end of the fourth week after the decline of the eruption. Its symptoms are generally those of languor and oppression, with headache, and it may be vomiting, the swelling coming on simultaneously. Usually, the face, the eyelids especially, is first affected, and the dropsical swelling may go no further, but generally the feet and legs, the hands, arms, chest, &c., become filled. Concomitant with these symptoms, the urine is scanty, high coloured, or "smoky" in tinge; it presents, moreover, peculiar chemical changes.

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* By some medical men the treatment of Scarlet Fever by Ammonia is much relied upon. The author certainly prefers the Chlorine remedies, in their various forms of Chlorate of Potash. Hydrochloric Acid, or the Chlorinated Solution made as follows:—Put ten grains of Chlorate of Potash, finely powdered, into a pint bottle; add one drachm of Hydrochloric Acid, leave for a minute with the cork loosely inserted; add one ounce of water and shake—gradually add water, shaking, till the bottle is filled. Dose for a child, eight years of ago, two tablespoonfuls every hour in a severe case.

Little has hitherto been said about medical attendance in a case of scarlet fever. Although mild cases may be, and every day are, carried safely through with simple nursing, should the case be at all a smart one, it ought to be visited by a medical man: if it is severe, his presence is indispensable, equally so, whatever the case may have been, if the least symptoms of the after-dropsy show themselves. Should this last contingency occur, warm baths ought to be used to restore, if possible, the functions of the skin, hot bran poultices applied to the body, and if there is pain about the kidneys, blood taken by leeches or cupping. The bowels should be well cleared, or rather purged, by the calomel and rhubarb, or calomel and colocynth pill, or better still, by calomel and compound powder of jalap; at the same time a draught consisting of a drachm of nitrous ether, half an ounce of spirit of mindererus, and ten or fifteen drops of ipecacuanha wine, in a wine-glassful of water, may be given every four or five hours. These measures ought to be sufficient till medical assistance is procured; if, as sometimes occurs, convulsions or delirium come on, they are to be treated as directed in the articles on those disorders. Besides dropsy, scarlet fever is liable to be followed by other affections, particularly in those of weak or scrofulous constitution. If the affection of the throat has extended to the ears by the eustachian tubes, the structure of the organs of hearing may be materially damaged, and deafness, total or partial, be the result. Frequently, runnings from the external ears, from the nose or eyes, continue for long after the subsidence of scarlet fever, and if the attack has been a severe one, a permanent state of impaired health may be the consequence. Of course, if a patient, after an attack of scarlet fever, remains weak, tonic medicines, quinine, or iron, with wine and good nourishment will be required, also warm clothing.

The question of contagion in scarlet fever is an important one. Few diseases perhaps are more eminently contagious, and few retain the power of propagation longer; indeed, it is difficult to say when this totally ceases, at least for some weeks. Probably, when the peeling stage is complete, the risk of contagion is gone, or nearly so. The fomites — see *Fomites* — from scarlet fever are very persistent, and unless the rooms which have been occupied by patients, and indeed everything which has been about them, are very freely cleansed, aired, or fumigated, there is always some risk for a considerable time. The power of belladonna, in acting as a prophylactic, that is, in protecting individuals against the contagion of scarlet fever, has been much discussed. It has been used extensively in Germany, and also in this country, and with apparent success; indeed, the author believes he has found it efficient for the purpose; at all events, the evidence is sufficient to make it worth a trial during the prevalence of a very severe or malignant form of scarlet fever. — See *Belladonna*. Scarlet fever is generally a disease of childhood, and is usually passed through once in a life-time; but adults who have escaped it in early life, are liable to be affected. Second attacks are rare. Although, however, those around persons suffering from scarlet fever may not have the disease, they are very liable to suffer from sore-throat, often in a severe form. It is a serious thing for women to be exposed to the contagion of scarlet fever soon after child-birth; every means, therefore, should be used to guard against such a contingency.

Scarlet fever has sometimes been confounded with measles; a comparison of the described symptoms of the two diseases will point out the complete difference.

SCAPULA.—THE SHOULDER BLADE.—See *Shoulder*.

SCIATICA — is neuralgia or nervous rheumatism, affecting the great or "sciatic" nerve of the lower extremity. This nerve, the largest in the body, passes down the back of the thigh to the ham, a little above which it divides into two main branches. The nerve sometimes becomes the seat of severe neuralgic pain, felt down its entire course, or perhaps in the hip only, or sometimes in the foot and ankle only; the pain comes on in paroxysms, and is generally increased by exercise; in some cases, pressure upon the course of the nerve causes pain.

Sciatica is often attended with so much suffering, that it affects the general health to a considerable degree; moreover, it is frequently most difficult to get rid of. For these reasons, the case should be under medical superintendence. Leeches and cupping, in the first instance, down the course of the nerve, especially in plethoric subjects, followed by blisters, are useful; or heat and moisture may be used with advantage, in the form of the bran poultice, followed twice or three times a day by an embrocation composed of one part of turpentine and two of soap and opium liniment. A couple of drachms of this should be rubbed in for ten minutes at a time. The bowels being cleared by a purgative, if there is no tendency to fever, drachm-doses of carbonate of iron, given three times in the twenty-four hours, often cures quickly; or turpentine, in doses of fifteen drops, given in milk, three times a day, may be tried; or quinine, in two grain doses, every eight hours. There is considerable uncertainty in the effect of remedies in sciatica, even in skilful hands. In obstinate cases, the author has found much benefit from the use of the warm saline baths, such as those of Moira, or of Ashby-de-la-Zouch. Acupuncture is often of service in this disease, and is, perhaps, not so much had recourse to as it might.[*] In all cases of sciatica, perfect rest of the limb is essential. Again, it is repeated, the obstinacy of the disease, the uncertainty of remedies, and the possibility of its being symptomatic of irritation in the kidney, make it the safer and wiser plan to have the case treated by a medical man at once.[†]

Refer to—*Neuralgia.*

SCHOOL.—It too often happens, that in consequence either of ignorance or of carelessness, the health of young people suffers irretrievable injury during the years of instruction. In day-schools, the chief source of injury is from deficient ventilation. The consequences of this, and the remedies, are sufficiently entered into under such articles as *Air* and *Atmosphere—Bed-room—Ventilation, &c.*—and require no further comment here; suffice it to remark, that the effect of breathing an atmosphere deteriorated by the carbonic acid exhaled from the lungs of a number of children into a small or badly ventilated room, must be to produce drowsiness and languor, and consequently to neutralize in some degree the exertions of the teacher.

In boarding-schools, the health of the pupils is of course subject to those general conditions and laws of health, which are commented on in the various sanitary articles; and parents would do well to assure themselves that due attention is paid to these, ere they commit the daily life of their children to influences over which they have no control. It is to be hoped, that there are few seminaries for the young in this kingdom, in which actual deficiency of food occurs; but it is possible, that in the selection and preparation of the food, there may be defects, which to strong constitutioned children are of comparatively little moment, but which are of the greatest importance to the delicate. The point should not be overlooked. It is impossible in the limited space of this work to enter into particulars, but the reader is referred to the various articles on *Food—Digestion*—and the principles of *Nutriment.* Equally important with quantity and quality of food, is the permission of sufficient time for meals, not only for the mere eating, but for rest after, before school work is resumed. The author is induced to notice this point especially, from having recently had his attention drawn to the regulations of a large educational institution, in which the time allowed for meals is so short, that the meal itself must be a scramble, independent of the injury which may result from the resumption of head-work immediately after taking food.—See *Digestion* and *Indigestion.* It does seem to be the case with some, that in seeking to cultivate the mind they forget the body, forget how dependent the activity of the instrument they seek to form, is, upon the well-being of its material clothing. There are many other points connected with school-hygienics, which are important, but, as before said, they fall under the heads of sanitary information generally, as already given in other parts of this work, and which space forbids to be reiterated.

Refer to—*Air, &c.—Bed-room—Education—Ventilation, &c. &c.*

SCIRRHUS—a form of cancer characterized by its peculiar hardness in the incipient stage of the disease.—See *Cancer.*

SCLEROTIC.—The outer thick coat of the globe of the eye.—See *Eye.*

SCREAMING—of infants, if continued, and if increased on particular movements of the body, should not be neglected. Intermittent screaming may be indicative of painful affection of the chest or abdomen, which incites the child to scream; whilst, on the other hand, the aggravation of the pain thus induced, compels it again to desist, thus giving the intermittent character.

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[*] It seldom fails to cure obstinate cases. The needles used by M. Duchesne, of Paris, ought to be employed, as they are so finely tempered that it is impossible to break them.

[†] Wood's Needle Syringe, for injecting a few drops of a Sedative Solution, such as Solution of Morphia, upon the affected nerve, has been much and successfully used of late. It is inadmissible except in the hands of a medical man.

Screaming of children during, or on awaking from sleep, may arise from the irritation of teething, or of worms, &c., or from indigestible matters in the bowels; for these causes the suitable remedies are to be used, as directed in the proper places. Screaming in sleep may be simply a bad habit, untraceable to any cause, or may be attributable to dreams, or excitement of mind produced by fright during the day, excited accidently, or by design, by foolish nurses. Lastly, screaming may arise from incipient disease of the brain. If the affection be persistent, its cause should be investigated by a medical man. It is said that in some cases of screaming a small dose of belladonna given to a child at bed-time is useful as a preventive. The author has no experience of the remedy.

SCROFULA—is the name rather of a constitutional tendency, or "Diathesis," than of a disease, although cases of scrofulous disease alone do occur, where the tendency is strong. That many persons may be tainted with scrofula, and nevertheless be free from those external signs which are usually considered to indicate the tendency, is unquestionable, but generally, if the scrofulous diathesis is at all strongly marked, its evidences are sufficiently apparent, and often strikingly so. The following description of the signs of scrofula by Dr. Phillips, one of the highest authorities on the subject, is peculiarly truthful. "In the form of the body there is usually observable a want of muscular development; but even this is often absent. There is often an appearance of plumpness and roundness, which is the result not of muscular development, but simply of an infiltrated condition of the cellular tissue, and which rapidly disappears under fatiguing exercise, privation, or disease. Commonly, there is a general paleness and coldness of the surface of the body, which is owing to a feeble circulating apparatus; but in a large number of cases, that paleness does not extend to the face. The colour of the hair is very variable, but for the most part it inclines to a dark tint. Of nearly nine thousand scrofulous children examined, a little over thirty-two per cent., had light hair and eyes. The abdomen is commonly tumid—discharges from the nose, the eye, and the ear are common—the tongue has commonly a dirty whitish coating; the tonsils are usually enlarged, and they are often so tumid as to impress a disagreeable and frequently husky character upon the voice, and to cause snoring when the patient is asleep. The stomach and bowels are frequently disordered, and digestion is ill performed. Sometimes the evacuations are clay coloured, very offensive, and of varying consistency, at others having a redundancy of bile. The skin, though often dry and hard, is often the seat of a considerable greasy exhalation, sometimes it is found to be fetid and sour. The scalp and other parts of the cutaneous integument are often the seat of eruptive affections.[*] The absence of vascular and muscular energy, often causes the child to lie and sit about much, and indisposes him to enter into the energetic games of his playfellows. As to the intellectual development claimed for scrofulous persons, that is usually wanting. That many scrofulous children present that character is quite true; but the result of very careful observation," says Dr. Phillips, "has convinced me that the overwhelming majority are without those superior intellectual qualities, which have been pointed out as their ordinary characters." Moreover, if the intellectual powers are forced, as too often happens, "and the nervous and intellectual systems have the vital actions concentrated on them too intensely, the sufferer loses flesh, the general health languishes, and the intellectual faculties may give way, destroyed by an opposite, but not less sure, method than that which breaks down the poor man's child."

As noticed above, the very common idea that scrofula is usually associated with light hair and complexion, is far from being correct, the larger proportion of scrofulous subjects have dark hair and eyes, with a dingy complexion, and some are ruddy, and to the common observer look robust; others with delicate skin, inclined to freckle, have red hair.

Of the causes of scrofula, there can be no doubt that hereditary predisposition is *the* cause above all others; the fact is beyond dispute, and there are few families in this kingdom, who have not, indirectly at least, practical connexion with the fact. It is to be observed, however, that the predisposition is strengthened, if a parent adds to the taint an acquired state of bad health, or if in a father the bodily powers are impaired by age; probably the reverse holds good, that whatever conduces to health and vigour, even in parents tainted with scrofula, tends to improve the constitution of offspring as regards the predisposition. Further, it is undoubted, that whatever hereditary tendencies children may possess, they are greatly retarded or strengthened by the external conditions to which such children are exposed. If the climate in which they reside is dry and bracing, if they are so placed that healthy habitations, good clothing, and nourishing food, are provided for them, and especially if their parents and guardians are awake to the importance of these things, of being on the watch for any tendency to failing health, or to disease, the chances of health and life, are far greater, than they are for children of even originally better constitution, who are exposed to a damp cold climate, and to the unhealthy influences attendant upon the circumstances of poverty. These in fact of themselves, especially cold, damp, and privation of food, particularly if accompanied with depression of mind, may even engender scrofula in a constitution comparatively untainted by it. It ought always to be an object in those predisposed to scrofulous disease, to maintain the highest possible condition of health.

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[*] Amongst other indications of the Scrofulous, or Strumous Diathesis or Temperament, the growth of longer hair than is usual down the spine, has been remarked.

In children, the glands, those of the neck, chest, and belly, are the most usual seat of scrofulous disease, though few if any other of the tissues are free from the liability. In adults, the lungs most generally suffer. Whatever disease affects a scrofulous person, whether it be, like enlargement of the glands, distinctly traceable to the scrofula itself, or some other ailment, it is apt to be modified in its course and appearances by the existing tendency. Purely scrofulous inflammation is slow in its progress, and unattended in any marked degree by the usual phenomena of inflammation. When suppuration ensues, the matter is not "healthy pus," but more like whey or serum; if ulceration results, it is indolent, and the discharge is also of the thin whey-like character. The formation of tubercles or of tubercular matter is another characteristic of scrofula. These bodies so common in the lungs, may also occur throughout the body; consisting of cheesy looking substance, they excite inflammation, and formation of matter in the adjacent parts of the tissue, in which they are deposited. When this occurs in the lungs, the tubercles become as it were softened down in the surrounding matter, and the fluid or semi-fluid mass is discharged by cough.

Under the head of causes, sufficient has been said to indicate the general course to be followed when a tendency to scrofula exists; when the disease actually breaks out, the same measures must be continued, and new ones of a more direct medicinal character adopted. These to be thoroughly carried out require the superintendence of a medical man. Iodine in its various preparations, especially that of the iodide of iron, also iron itself, with tonics generally, and above all the use of cod liver oil, are the principal remedies; and change of air, when obtainable, to the sea, or to a dry bracing air is alwa advisable. Season, as might be expecte exerts considerable influence over the scr fulous constitution; the early spring mont being the most unfavourable. In som countries there is considerable importan attached to the contagiousness of scroful It cannot be considered contagious in th ordinary acceptation of the word, but must be always advisable, especially f those predisposed to the disease, to avoi close contact with the affected. The scr fulous is often spoken of as the "strumou diathesis."

SCURF—See *Dandriff*.

SCURVY.—This disease so well know and so fatal in times past to voyagers an others, has within the last few years, bee again brought prominently into notice, i consequence of its prevalence in this countr during the year 1847, when, in consequenc of the failure of the potato crop, number of the population were compelled to do altogether without a vegetable substitute. It is requisite here to explain, that what is meant by scurvy in this article, is a very different disease from that meant in the popular acceptation of the term, which is applied to undefined cutaneous disorders especially of a scaly character. The error has probably arisen from the dry scurfy appearance of the skin, which often precedes an attack of the real scurvy. True scurvy is a severe disease, unquestionably owing to deterioration of the blood, as a result of inappropriate nourishment, especially of nourishment unvaried by the admixture of fresh vegetables, milk, &c. Scurvy commences with languor and signs of general debility, and great depression of spirits, the gums become swollen, and spongy, red or purple looking, project over the teeth, and bleed easily, this tendency to the exudation of blood extending to the various mucous surfaces within the body, in bad cases, and shewing itself in the discoloured patches of effused blood beneath the skin. The lower extremities become first stiff, then swollen and hard, the skin being as it were glued down to the parts beneath, and covered more or less with brownish or purple patches. If the case goes on unchecked, blood is passed from the various outlets of the body, and the patient sinks. Fortunately, for this formidable malady, we possess the well known and almost certain cure of lemon juice, but although this is the most strikingly speedy, and most certain curative agent, it is by no means the only one; as the deprivation of fresh vegetables or of milk, seems to be one chief cause of the disease, so a return to the use of these articles appears to be an antidote, and, in this way, potatoes and vegetables generally, without medicine at all, are often sufficient to cure. Indeed in the epidemic of scurvy which prevailed in 1846, in the General Prison at Perth, the cases which occurred were cured, and the further progress of the disease arrested, by the addition of milk, and in some cases meat, to the usual dietary; malt liquor, is likewise found useful in diminishing the tendency to, and in arresting the progress of scurvy.

Of course in a bad case of scurvy, when lemon juice is procurable it should be used; half a pint may be given in the day, alone or diluted. Until lately, the opinion has prevailed that the curative powers of lemon juice in scurvy depended upon its acid, and that the good effects of other vegetables arose from their containing that or other similar acids; the researches of Dr. Garrod, however, have thrown doubt upon this, and apparently go to prove, that the beneficial influence is rather due to the potash which exists in combination with the acid. This view is supported by the fact, that citric acid—the acid of the lemon—when used alone, does not cure scurvy. Should the potash view of the question prove correct, it will afford an important, cheap, and generally available remedy, for this severe and often fatal affection. Although, however, it is certain, that the disease in question depends for its development upon the deficiency of certain articles, or constituents of food, it is no less certain, that its attack is greatly favoured by the deficiency of sanitary regulations generally, and that those who are subjected to confinement, as in a prison, or on board ship, especially if ventilation and other necessary arrangements are neglected, will much more quickly become the subjects of scurvy, than those who are not exposed to the same depressing influences, even if the food be the same. Salt provisions alone will not produce scurvy, unless other conditions favour the disease. Males are more liable to it than females.

SCYBALÆ—are hard lumps—generally black looking—of feculent matter.

SEA.—The effects of the sea upon health, have to be considered under the two aspects, of exposure to "sea-air," and of "sea-bathing." That exposure to the air of the sea, especially in the case of persons unaccustomed to it, exerts a stimulant and tonic effect cannot be doubted. The freshness, and in summer, comparative coolness of the air in the vicinity of the sea, contributes to this, and its impregnation with saline particles, the chlorides especially, probably adds to its tonic properties. Moreover, the average temperature of sea-coast places, is more equable than of those inland, being generally warmer in winter. Although, however, the general character of sea air, and its effects upon health, in different places, are similar, it varies greatly, according to locality, as to particular influences; thus, at Torquay, the relaxing air is the opposite of the stimulating atmosphere of Brighton, which again is very different from Hastings. These differences, it is true, depend more upon land influences, such as formation of coast, the vicinity of hills, &c., than upon the sea itself, but still they modify the effect of the latter so greatly, as to make them a serious consideration when residence, either temporary or permanent is chosen with reference to health. Under any circumstances, it is considered as a general rule, that invalids derive more benefit from sea air, at a little distance—quarter of a mile—from the water than they do close to it.

Refer to—*Climate.*

SEA-BATHING—when properly employed is a stimulant, in the first instance to the skin, and further to the body generally. The stimulant action upon the skin indeed, even proceeds so far as to cause eruptions, somewhat resembling scarlatina; in some cases the smarting from these eruptions is so severe, after each immersion, that the practice has to be discontinued, at least for a time.

The abstraction of caloric from the body, in consequence of bathing in sea-water, certainly appears to be less than it is from bathing in fresh. The effects, however, from bathing in the sea must vary, as the proportion of the saline constituents varies considerably in different localities. "The average quantity of saline matter is three per cent, which consists of chloride of soda or common salt—sulphate of magnesia, or Epsom salt—sulphate of soda, or glauber salt; also muriate of magnesia and of lime, with salts of iodine and bromine." The above constituents are uniform as to presence, but are so unequal as to quantity that, "in the Baltic, a pint of water contains scarcely two scruples of salt; on the coasts of Great Britain, it contains more than half an ounce; in the Mediterranean much more; and in some parts under the Line, the quantity amounts to more than two ounces."[*] "From the beginning of July, the temperature of the sea is constantly on the increase, and during the month of August, it is at the highest, remaining the same with very little alteration till September, when the temperature again becomes less. The minimum temperature of the sea, for each day, is in the morning before ten o'clock, its maximum from twelve to five. Other circumstances being the same, the temperature of sea water is observed to be higher in proportion to the proximity of continents and Islands."* Moreover the temperature of the sea on a line of coast, is modified by the construction of the shore; if this be rocky, rapidly deepening, the temperature of the sea during summer will be lower than it is on a flatter shore, where the advancing tide travels over an extent of sand warmed by the sun, and *vice versa* in winter.

Persons who are unaccustomed to sea-bathing, may sometimes find it of service to take two or three tepid sea-baths, before going to the open sea. There is however, no necessity, as some suppose, for a course of medicine beforehand, unless the individual is decidedly out of health, and then sea-bathing should not be engaged in, before consultation with a medical man, who may give medicine for the existing ailment, but certainly persons in good health have no occasion for preparatory medicine. Individuals who are very plethoric, who are the subjects of any organic disease, or who have any tendency to fulness about the head, also aged persons, should not bathe without medical sanction.

If a person is in a state of body to benefit by bathing, and if the good effects are not counteracted by too long immersion in the water, the bath should be followed by re-action, which conveys a sensation of increased strength and spirits, a glow of warmth on the skin, and increased appetite; if, on the other hand, the reaction is tardy, if the skin continues cold and blue-looking, if the fingers and toes become what is called "dead," if there is bodily and mental depression, with languor and sleepiness, it is certain the bathing does not agree, from some cause or other.—Refer to—*Bath.*— When cold sea-bathing does not agree, or is too depressing, the tepid sea-bath is often of much service, and does not relax like fresh water tepid bathing.

Sea-water, as might be expected from its saline constituents, acts as a purgative. The usual dose is half a pint, repeated once or twice according to effect. It may be gone on with, with less risk of depressing consequences than arises from the use of saline aperients generally; indeed, it exerts a tonic influence. In worms, both when taken by the mouth, and used as an enema, sea-water is often useful. "Sea-water has been frequently taken in habitual costiveness, particularly by those of full habit who lead a sedentary life. In this instance, its stimulant properties are as useful as its purgative qualities. When it is to be given to children, they are easily persuaded to take the dose if its nauseous taste be covered with a little port wine. It is a curious fact, that by the continued employment of sea-water as a purgative, although for a short time it produces emaciation, yet its secondary effect is to promote obesity."

"It is not easy to account for the fact, that no artificial mixture of the component parts of sea-water produce a compound of powers equal to the natural."† "Although sea-water cannot be regarded as a purgative of much power, yet in some constitutions it operates when no other cathartic will take effect." "When it fails to purge, which it does in some habits, it produces fever of a low kind, accompanied with purple spots on the skin."*

SEA-SICKNESS.—See *Sickness.*

SEASONS.—The influence exerted by the changes of the seasons upon man's health and life has been considerably elucidated by the researches of different observers, and by the statistical returns of this and other countries, but it is a subject so much mixed up with coincident influences and circumstances, that accurate results are with difficulty attainable. As, for instance, while according to the returns of mortality in this kingdom, the winter months present the greatest average of death; according to the researches of Casper and Quetelet, summer is the most fatal month in Stockholm, in Montpelier, and in Berlin; and probably throughout Central Germany. These differences perhaps depend on local causes. Along with this uncertainty, however, there are certain general rules of climate, connected with the seasons, which are well ascertained; such, for instance, as the greater prevalence of inflammatory attacks, and of disorders of the respiratory organs during winter and spring; the frequent occurrence of apoplexy during frost, and the epidemic of biliary disorder towards the close of summer and autumn, after the high temperature has permitted the accumulation of carbonaceous compounds in the system. The influence of season is of course much less felt by the young, the robust, the well-fed, clothed, and housed, than by those who are exposed to the reverse circumstances. "At no period of life is the influence of the seasons on mortality more perceptible than in old age; and at no age less than between twenty and twenty-five, when the physical man, fully developed, enjoys the plenitude of power."* Of course, much is to be done by care, in guarding against the influences of climate consequent upon season, both in old and young.

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* Lee's Baths of England.

* Thomson's *Materia Medica.*

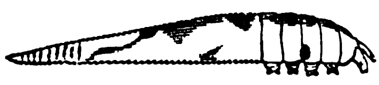
† Tidman's Sea Salt is said to contain all the constituents necessary for the extempore production of sea water.

Refer to—*Clothing—Cold—Heat, &c.*

SEASONING—See *Acclimation.*

SEBACEOUS—GLANDS or FOLLICLES—are glands situated in the skin, which secrete an unctuous matter; they are most common on the face, and about the nose. In many persons, especially in those who live in towns where there is much smoke, the orifices of these glands become black, constituting what are called "black-heads." When these are squeezed, the "sebaceous" matter is expelled in a worm-like form, and with the black head at the extremity, from its resemblance to a worm, has actually been taken for such. The sebaceous matter itself is not indeed a worm, but it has within the last few years been discovered by Dr. Simon, of Berlin, that it is the seat or "habitat" in many persons—according to Mr. Erasmus Wilson, in all—of a minute parasitic animal —fig. A. According to Mr. Wilson, the animal varies from the $\frac{1}{135}$ to the $\frac{1}{85}$ of an inch in length. There are usually two, but often more, in the small mass of sebaceous matter squeezed out of a follicle.† Even in the most healthy looking skins they are said to exist, not causing irritation, unless by accumulation in undue numbers.

A



When irritation takes place in a sebaceous follicle, it causes the inflammation, and formation of matter which constitute a common pimple. The formation of black-heads is best prevented by bathing with warm water, and then rubbing the surface well with a towel; frequently, however, the tendency is connected with disorder of the digestive organs, which requires rectification.

Refer to—*Skin.*

SECALE CORNUTUM.—See *Ergot.*

SECONDARY.—See *Primary.*

SECRETION.—The term, as usually applied either to vegetables or animals, signifies the separation of a specific substance from the ordinary fluids of the organized body. In the stricter acceptation, it is more applicable to such processes in animals as the secretion of the saliva of the gastric juice, &c.

SECUNDINES. — The after-birth and membranes cast off after the birth of the child.—See *After-birth—Child-bed.*

SEDATIVES—are medicines which depress the activity and sensibility of the nervous system, without causing previous excitement; in this they differ from narcotics. There has been considerable diversity of opinion respecting the action of sedatives, and as to what agents belong truly to the class. Prussic acid is usually cited as a characteristic example.‡

Refer to—*Narcotics.*

SEDENTARY.—The observations made under such articles as *Exercise — Motor Change, &c. &c.*, render comment upon the effects of sedentary habits superfluous.

SEIDLITZ.—The waters of this well-known Bohemian spa owe their aperient activity to the presence of Epsom salts, or sulphate of magnesia, one hundred grains of which are said to be contained in every pint of water. It also contains lime in small proportion. These qualities are very different from those which distinguish the commonly used seidlitz powders.

SEIDLITZ POWDERS. — These consist essentially of two drachms of Rochelle salt, mingled with forty grains of carbonate of soda in the one paper, and thirty-five grains of tartaric acid in the other, usually the white paper. Seidlitz powders possess the advantages and disadvantages of saline aperients generally, except that they are pleasanter than most.§

Refer to—*Effervescing—Purgatives—Salines, &c.*

SELTZER-WATER — is chiefly distinguished by the large amount of carbonic acid it contains in combination with alkaline carbonates, such as those of soda, magnesia, and lime; it also contains common salt. It is useful in some forms of dyspepsia, gravel, &c. &c. It cannot, however, be used habitually, as it is by some who are in good health, with any apparent advantage.

SEMOLA AND SEMOLINA—both belong to the class of farinaceous preparations The former, as made by Mr. Bullock, consists principally of the gluten of wheat, free from the starchy constituent of the grain. Its nutritive power, therefore, that is, its capability of yielding the plastic elements of nutrition—see *Grains*—must be considerably greater than that of the simple grain. Indeed, it must in some degree approach animal food in nourishing power. Semola may be mixed with soup, or prepared like sago, &c. Semolina, also called manna croup, a preparation of a Russian grain, is less used now than formerly, but forms a light nourishment, prepared and used like sago.

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* Quetelet *On Man.*

† If a drop of warm oil be applied to the mass of sebaceous matter which is squeezed out, the animalcule can readily be seen by the aid of the microscope.

‡ Cold is certainly a direct Sedative, and perhaps Carbonic Acid, when specially applied.

§ The new "Granular Effervescing Citrate of Magnesia," has greatly and deservedly superseded the use of the Seidlitz Powder.

SENDING FOR THE DOCTOR.—Under the head of *Advice, Medical*, a few observations applicable to the present subject have already been offered, a few more may be serviceable. In large towns, where distances are short, and medicines procurable in every street, it is generally of less consequence for a medical man to be strictly informed of the nature of any case of emergency, to which he is summoned, than it is in the country. In the latter, if the case is at all an urgent one, or if it is an accident, the message should always be, either clearly given to an *intelligent* messenger, or sent by note, which is the safer plan, giving such an idea of the nature of the case, as may serve to guide the practitioner in taking with him remedies or instruments, the immediate employment of which may save much inconvenience to all parties, much suffering to the patient, perhaps life. A medical man cannot, of course, at all times, even from the plainest message, form a correct idea of the case he is to meet, but he may in many. When a case is one of accident or emergency, of course any hour, night or day, is the same; and if medical attendance is required, it should be so at once; in other cases, however, much convenience to all parties may be secured by messages properly timed. Some persons have a habit of putting off till evening sending for a medical man; this, when it can be avoided, is neither just to themselves nor to their medical attendant; they get a man, jaded perhaps with a day's work, and with his energies less alert than in the morning, and they also perhaps subject him to unnecessary fatigue, which a timely morning message might have saved. Of course, cases of illness which have appeared slight in the morning, may, by becoming much more aggravated in the lapse of a few hours, and especially towards night, call for that attendance which before seemed unnecessary; these are not what are meant, but, in ordinary cases, it ought to be a rule, to let a medical man have the message as early as possible in the forenoon. It not only enables him to arrange his own business better—and, when he is busy, the question of arrangement is no slight consideration—but it renders it probable that his patient will be earlier visited. Again, when a message is sent, care should be taken that there is no exaggeration.

Some of the above advice may probably surprise some persons, but every medical man, who has been in general practice, must have experienced its want, not so much among the wealthier classes as among [illegible] poor; above all, the subject last alluded to, that of sending exaggerated messages, requires notice. The message that a person is "dying," or "killed," even in cases comparatively slight, though sudden [illegible]ness, or of an accident, is an extremely common one in the country; and although when a practitioner has been deceived by such calls time after time, he gets more wary, and takes them for what they are worth, it may occur, that the repeated "cry of wolf," will in some instance cause him unintentionally to overlook a case, by turning a careless ear to the call which has so often before proved untrue. Certain it is, that such is the real explanation of some of those cases of apparent neglect of the poor by medical men, which now and then come before the public. The general readiness of the members of the medical profession to attend to the poor, either by engagement or gratuitously, when such attendance is really requisite, might save them from some of the censure, public or private, with which they are occasionally visited for such omissions by those who know little of the trials and vexations to which they are subjected.

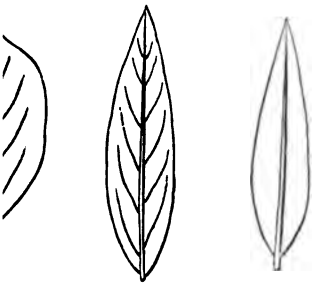
It is not meant to say, that whenever an exaggerated message is brought, it is a wilful misrepresentation; in many cases, some relative or bystander, without waiting to ascertain the real state of matters, starts off in a fright to the surgeon; in other instances, however, among the ignorant, the system is one of deliberate forethought, under the idea that the medical man will make greater haste in attending to his patient. It has been shown, how, in the long run, this defeats its own end, and does mischief as well. Lastly, some persons send for the doctor by irregular channels, through third or fourth parties, or by leaving messages at houses, &c.; this is always uncertain, and often, by the message being forgot, inflicts disappointment. If a medical man is really required, send for him direct, soon in the day if possible, and if there is any distance to be traversed, by note, giving a clear account of the case to which he is summoned.

SENNA.—This most useful purgative is the leaf or rather leaves of different species of cassia. It is a very old medicine, having been used by the Arabians. Senna grows abundantly in Northern Africa, from whence large supplies are obtained; it is also cultivated in India, and a considerable amount exported thence. The most familiar desig-

of senna are Alexandrian, Tripoli,
ıt Indian senna; other varieties are
in commerce, but not commonly in
ıntry.

ındrian senna has the highest gene-
.tation. It is brought chiefly from
nd Upper Egypt. As imported, its
ace-shaped leaves—fig. A 2—are

A

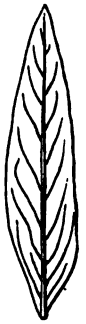


with pods, flowers, leaf, stalks, &c.,
plants, with the broad leaves of
description of senna—fig. A 1—
ı the leaves of a plant which is not
at all. The latter adulteration,
always introduced into this descrip-
ınna to some extent, and sometimes
goes by the name of argel. This
. A 3—may be known from the
ıa by its being thicker and more
oking, by the absence of the pro-
eins of the true leaf, and by the
y of the leaf, which, it will be seen,
om that of the senna, one side of
more prolonged down the midrib
other. The "picked senna" of
is chiefly the Alexandrian senna,
ich the impurities, broken leaves,
been removed.

. senna closely resembles the above,
ably, from more careless gathering
ing, the leaves are more broken,
dmixture of impurities greater. It
r than the picked senna, but if the
s are not very abundant, the mere
e leaves being broken up, if they
be properly dried, does not mili-
nst the perfect efficiency of the
deed, it is as good as the other.

'arieties of East Indian senna, such
mbay, are of but low value, owing
badly prepared; there is one kind, however, the "Tinnivelly senna"—fig. B.—

B



which is described by Dr. Royle, as "well grown and carefully picked; the leaflets of a fine, rather lively green colour; thin, but large, being from one to two inches in length, and lance-shaped." This kind is now highly esteemed, and is rapidly displacing the other sorts in many places. "It is mild in operation, certain as a purgative, and operates without griping."

Senna, as a purgative, is safe, certain, and convenient, and deservedly holds a high place among domestic remedies. It is a pure aperient, does not depress or debilitate, and is admissible in most forms of disease, and at all times of life. Senna is often accused of griping, but this effect generally results from faulty preparation, or from the admixture of the argel leaf above alluded to. Senna is generally given infused; if time permits, the infusion may be made with cold water, which, in the course of a night, will fully extract the purgative principles of the leaf. When quicker preparation is necessary, the infusion may be made with hot water, like common tea, but should *never be boiled;* the higher the temperature employed in preparing the senna infusion, the more likely is it to gripe. Formerly, an idea prevailed, that the griping properties of senna depended on the presence of the leaf-stalks. It is erroneous. Additions, such as ginger, caraway, &c., are frequently made to senna to prevent griping, and saccharine matters are often added for the same purpose; the inconvenience is better rectified by attention in preparing, and no addition covers the slight nauseous taste of the drug so effectually, as a small portion of common black tea infused along with it, with or without the addition of a little milk and sugar. Besides infusion, senna is given in the form of confection and of syrup; but none of these preparations are so actively certain as the infusion, and may disorder the stomach.

The common combination of Epsom salts with senna infusion, or, as it is called, black draught, forms a very active purgative, but is only suitable for the strong. The average dose of senna is a quarter of an ounce, infused in rather less than a breakfast-cupful of water; this will make a tea-cupful of infusion, and be a suitable dose for a child ten years of age. Confection of senna, the old "Lenitive Electuary" agrees well with some persons, as a habitual aperient, particularly if they are liable to piles. The dose is two drachms or tea-spoonfuls.

SENSATION AND SENSIBILITY.—See *Nerves and Nervous System.*

Refer to—*Pain.*

SERUM.—The serum is the watery portion of the blood, which remains after the clot has separated in the process of coagulation or clotting. The "water" thrown out in a blister is the most familiar example of serum. Whilst the blood circulates in the living body, it consists of the globule—see *Blood*—floating in the "liquor sanguinis," or fluid of the blood, which is serum holding the "fibrine," in solution. When blood is withdrawn from the body, and allowed to repose, this fibrine separates, and in the act, entangling the globule, forms the red clot, the serum remaining as yellowish looking fluid. In this state the serum still holds in solution "albumen," and earthy salts; if it be exposed to heat, the albumen is separated by coagulation. See *Albumen*—the remaining watery fluid still contains the salts of potash, soda, lime, and iron, which exist in all healthy blood.

SETON.—A seton is usually formed by means of a portion of a skein of silk, passed under the true skin, so that it excites, suppuration; it is in fact an issue. The surgeon forms a seton by pinching up a fold of the skin in which he intends establishing it, he then passes the silk through the base of the fold, by means of a "seton needle," made for the purpose, or by cutting the skin with a knife, and using a probe to pass the silk. Caoutchouc and other tapes, are used for setons as well as silk. In a few days after a seton has been introduced, there is usually free discharge of thick matter. A seton, to be at all tolerable, requires the strictest cleanliness, and ought to be dressed twice a day, with fresh linen, spread with a little simple cerate, the silk being moved from side to side at each dressing, so as to keep up the irritation; if this does not seem to be sufficient, it will be necessary to smear the silk from time to time with some Spanish fly, or savine ointment. When the silk becomes hard and stiff, it must be changed, by attaching the fresh silk to the old, and drawing it into the wound.

SEWER—See *Drainage.*

SEX.—With regard to the question of sex, in connexion with childbirth, there can be little doubt that a pregnancy in which the child is a male, is likely to be more prolonged, than one in which it is a female.

As regards the relative numbers of the sexes born, the averages for Europe, give 106 boys, for every 100 girls. Further, according to researches made both in this country, and in Germany, "on the influence of the age of parents, on male and female births, it is found that in general when the mother is older than the father, fewer boys than girls are born; the same is the case where the parents are of equal ages; but the more the father's age exceeds that of the mother's, so is the ratio of boys greater."*

The nearer the sexes approach puberty, the greater is the consideration required for the different tendencies of constitution, and after that period the peculiar differences, of the female at least, require constant consideration. As a general rule, females require medicine in smaller doses than men.

SHAMPOOING—is a system of mechanical manipulation of various parts of the body, for the cure of disease. In rheumatic affections, sprains, &c., it is said to be useful. The practice is much followed in the East.†

SHARE-BONE.—The auterior portions of the "ossa innominata."—See *Pelvis.*

SHELL-FISH—generally, are indigestible, and some, such as the common mussel, are at times even poisonous. The poisonous effects of mussels, have been attributed to the presence of copper, and in some instances this metal has been detected in the fish which have caused symptoms of poisoning; in other cases, however, chemistry could afford no clue to the cause of the catastrophe—"it is probable that there is an animal poison present." The symptoms produced by mussel poisoning are described by Dr. Taylor, as uneasiness, and sense of weight at the pit of the stomach, numbness of the extremities, heat and constriction in the mouth and throat, thirst, cramps; or with swelling of the eyelids, heat and itching of the skin, with nettle rash eruption; also vomiting and diarrhœa, with colic.

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* Quetelet *On Man.*

† The practice of Shampooing, or kneading the muscles of emaciated limbs, is of the highest value in retaining and promoting their nutrition.

Emetics, followed by sal volatile, or stimulants, would be appropriate treatment.

Refer to—*Crab—Oysters, &c.*

SHERRY,—one of the dry strong wines, contains, as imported into this country, rather more than 19 per cent. of alcohol. It is free from the astringency of port wine, and generally agrees better with persons of weak digestive powers. To be good, it ought to be free from acid, or nearly so.

SHINGLES—is a disease of the skin, known to medical men as Herpes. It consists of groups of vesicles situated upon inflamed patches of skin. The "breaking out" upon the lips, nose, &c., which occurs after a cold, is an eruption similar in kind to that of shingles. Shingles is usually situated near the waist, surrounding one-half of the trunk of the body, like a zone or belt, it may, however, extend in other directions over the trunk, and, but rarely on the limbs, it is always situated on one side, and that, generally, the right. The eruption of shingles is generally preceded by symptoms of general indisposition, and especially by severe darting pain in the parts where it is about to appear. At first, red patches shew themselves at the extremities of the site of the future eruption, and gradually become more numerous till they form a line, upon these patches shining points form, which gradually enlarge into vesicles, a little under the size of small peas, these vesicles containing a clear fluid, which gradually becomes opaque. At length, in the course of eight or ten days, the vesicles burst, discharge, and dry off in the form of scabs, or it may be, in very weak subjects, leave sores or ulcerations. The belief was formerly entertained among physicians, and still retains its hold of the popular mind, that if the belt of the eruption of shingles was continued round the body, so as to meet, the disease proved fatal. This is perfectly erroneous. In itself, shingles is a disease devoid of danger, but requires investigation, on account of its frequently being sympathetic of constitutional disorder and disease. On this account, although the eruption itself may subside under the use of simple remedies, a case of shingles should be examined by a medical man.

When the disease occurs in the young and plethoric, the diet must be reduced to one of milk and farinaceous substances, and all sources of heat or excitement avoided. Five grains of blue pill at night, followed by senna, black draught, or seidlitz powder in the morning, may be repeated once or twice; and, in the course of the disease, if there is much fever. five grains each of the carbonate and nitrate of potash, may be taken twice or three times a day, dissolved in half a tumbler-full of water; or the proportion of carbonate of potash may be doubled, and a tea-spoonful of lemon juice used to form an effervescing draught. The painful itching of shingles often causes much distress. It may sometimes be allayed by simply keeping the eruption covered with a cloth soaked in tepid water, or by using the common lead lotion in the same way. Pencilling the shingly eruption with a strong solution of lunar caustic, as recommended in Erysipelas, is found to relieve the severe pain.*

When shingles occurs in the aged and debilitated, instead of the diet being reduced, it requires, perhaps to be improved: at all events, the system must be sustained with nourishing broths, and probably with wine, along with quinine and medicinal tonics, the bowels being regulated, but not purged. In such cases however, a medical man must be in attendance. Care should always be taken that the vesicles of shingles are not forcibly burst, as by lying upon them; if they are, troublesome ulceration may follow. Herpes is not contagious. As above mentioned, it is generally owing to constitutional disorder, which a medical man only can discover and rectify. Its occurrence has been at times apparently traceable to violent mental emotion, such as anger. In some cases the tendency appears to be hereditary.

SHIP.—At all times, but especially at present, when so many hundreds and thousands are emigrating from this country, it is to be regretted that stricter supervision is not maintained over vessels, in which, for the time being, those who have taken their passage in them, are utterly powerless, or nearly so, as regards abuses, and are obliged to submit to whatever arrangement, or, too often, want of arrangement, there exists on board. Space forbids the subject to be entered into here as it deserves; it has been ably treated in a recent number of "Household Words." The reader is further referred to the article "Emigration," in the present work, as containing a few hints on the subject. It is reiterated, those who contemplate embarking on board ship for a long voyage, should assure themselves well, not only that the vessel is right in the nautical sense of the word, but that she is arranged and fitted in such a manner that they need not fear that health will be injured or sacrificed during the transit. While these sheets are going through the press, attention is drawn in some of the public prints, to the injurious results from a description of "patent fuel," which is carried on board some vessels. The matter should not be forgotten.

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* Dusting the surface over with a mixture of white bismuth and flour, seldom fails to relieve the pain and itching.

In addition to the ordinary provisions, the following is a list of the supply of "medical comforts" which emigrant vessels are bound to be provided with for every hundred adult passengers.

56 lbs. of oatmeal.
20 lbs. of West India arrow-root.
40 lbs. of Scotch barley.
100 lbs. of sago.
20 lbs. of tapioca.
30 lbs. of preserved boiled beef, in 1 lb. tins.
20 lbs. of preserved boiled mutton, in 1 lb. tins.
400 pints of lemon juice, in wickered stone bottles, of five gallons each.
300 lbs. of sugar.
24 bottles of port wine.
12 bottles of sherry wine.
6 bottles of gin.
66 gallons of approved stout, including at least six dozen in bottles, the rest in 9 gallon casks.
5 gallons of brandy.
15 gallons of vinegar.
12 dozen pints of preserved milk.
2 cwt. of marine soap.

The above medical comforts to be issued at the discretion of the surgeon, whether for the sick, or to preserve health.

Women, who may be nursing, may have a pint of stout each day, if ordered by the surgeon, and the surgeon is to make liberal use of the preserved milk, for keeping up the health of the younger children.

SHIVERING—as a symptom of illness, is the sensation as of cold, which all must have experienced at the commencement of even a slight cold or ailment. When it amounts to actual shaking of the limbs, and chattering of the teeth, it is called rigor. The cause of the sensation of shivering is probably from the nervous system.

Shivering, or rigor, is a symptom which frequently accompanies the formation of pus or matter within the body, in the course of inflammatory disease.

SHOCK—in medical language, is the depressing impression imparted to the nervous system, and, through it, to the constitution generally, as a consequence of severe pain or injury. The extent of the shock, its duration, and even its fatality, often depends more upon the part or organ through which it is received, than upon the actual extent of the living body injured, or the pain suffered. Thus, a comparatively slight blow over the region of the heart, upon the pit of the stomach, or on the neck, in all which
situations nerves are collected in nu
interlacements, is apt to be followe
mediate, and, it may be, fatal shoc
depression of the system which fo
blow on the head, is of a similar
Again, injuries which involve large
of the body in destruction, whic
severe pain, or much effusion of bl
all followed by shock. This is, or
was, one of the principal hazards o
surgical operations; *was*, for the in
tion of chloroform, and of other an
agents, has, in a measure, done aw
this hazard, and in doing so, must
have saved numbers of lives; numbe
would far outweigh the few insta
death which have been attributabl
use of these most merciful allevi
human suffering.

When an individual suffers a sho
any of the causes above enumera
may die at once, as sometimes occu
a blow on the pit of the stomach; li
were, is simply extinguished, but
shock is not of this immediately fat
the person becomes pale, perhaps
the ground, and it may be, vomits, co
ness is partly or entirely suspend
action of the heart depressed, till i
but imperceptible. This state of sho
be recovered from in a few minut
may continue for many hours, and
nate either in recovery or death, its d
depending on contingent causes, o
the fact, whether there has been mu
sion of blood or not, along with the
In some cases of shock, in which
pain has been suffered in the first i
it appears as if the intense sufferi
annulled the sensations of the nerv
tem, the sufferer undergoing even t
severe operations apparently witho
ing. This is always a most fatal sy
The immediate treatment of a pers
has suffered a shock, is similar to tha
mended in cases of fainting, and of
sion of the brain, with the same pre
as to the use of stimulants. When t
of shock continues, stimulants by the
although required to be gone on wit
not be too strongly pressed; it is im
to lay down any rule beyond that
tious administration. Ammonia in d
forms, the ethers, and the most read
curable alcoholic stimuli must be em
but, along with these should be joi
stimulation of heated fluids, of st
clysters, and of heat applied externa
latter, especially, is most useful on
of the continued coldness of the
and especially of the extremities,
accompanies such cases. Above

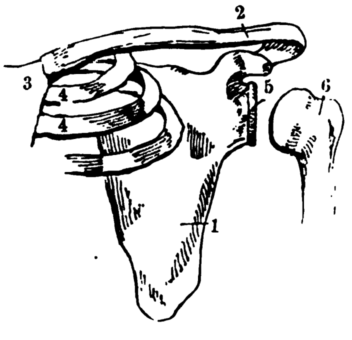
injudicious interference or movement during the first state of shock must be avoided, as likely to extinguish whatever remains of struggling vitality may be left. The absurd, almost murderous practice which formerly prevailed, of surgeons, whenever called to a case of accident, bleeding the patient, has already been alluded to.—See *Blood*. Whatever is requisite to be done for the treatment of the injuries of a person in a state of shock, should, if possible, be delayed till at least some effort has been made by the use of stimulants, to rouse from the state of depression. In alluding to the shock sustained by the wounded on the field of battle, Mr. Hennen, in his *Military Surgery*, remarks, "Many lives might be saved, and the patients placed in a more favourable condition for undergoing primary operations, by the early administration of a small quantity of wine."

Refer to—*Pain*.

SHORT-SIGHT.—See *Vision*.

SHOULDER.—The shoulder, in addition to the muscles and other soft parts, by which it is surrounded, is made up specially of the three bones, the shoulder-blade or "scapula,"—fig. A—1—the "clavicle" or collar-bone,—2—and the "humerus" or arm-bone,—see *Humerus*—the round head of which fits to the cup—5—of the shoulder-blade—see *Skeleton*—to form the shoulder-joint.—See also *Ligament*. The upper ribs—fig. A.—4—may also be considered as entering into the formation of the shoulder region generally. The whole formation and adaptations of this most important part of the body are singularly beautiful, made so as to give the most extensive motion, and yet that fixedness and steadiness of action, by which, those most perfect agents—the human arm and hand—of that most wonderful instrument—the human mind—are so specially adapted to fulfil the ends of the Creator of each. By means of the collar-bone—2—bearing at the one extremity on the breast-bone—3—and at the other upon a projection of the shoulder-blade, the shoulders are kept extended or "squared." It is this squaring of the shoulders which causes the chest to appear broader at the superior than at the inferior portion, whereas, in itself, the cavity of the chest is conical, the narrowest part above.—See *Chest*. The comparatively loose attachment of the great body of the shoulder-blade to the trunk, admits of much freedom of motion, whilst the fullest extent of movement is secured to the arm itself by the nature of the shallow ball-and-socket joint, formed by the head of the arm-bone, and the shallow cup of the blade-bone—5. The shallowness of the cup, however, which is requisite to admit of this free movement, renders the head of the arm-bone, in some degree, liable to displacement or dislocation more frequently than other bones of the body.

A



Refer to—*Dislocation*—*Fracture*—*Clavicle*—*Ligament*—*Skeleton*—*Axilla*, *&c.*

SIALAGOGUES—are medicines which increase the flow of the saliva, when they are chewed, such as horseradish, ginger, &c. They are rarely prescribed.

SICKNESS—See *Vomiting*.

SICKNESS, SEA.—The primary cause of the distressing affection, sea-sickness, has been a good deal disputed, but its dependence upon peculiar affection of the brain, by the motion of the vessel, seems now very generally admitted. It has been imagined, that the effect upon the brain was conveyed through the medium of the eye, and caused by the apparent movement of the objects of sight; as, however, blind people suffer from sea-sickness, the affection must be excitable by other means than the above. Possibly, as has been suggested, it partly results from disturbance of certain portions of the brain which have for their function the preservation of the equilibrium of the body. That, however, sight is in some degree accessory to the excitement of nausea is evident from the fact, that some persons experience the sensation simply from objects appearing to move before them, as they do from a ship moved by the waves, or, indeed, in some cases by the mere appearance of a waving pattern upon a wall paper. The affection is more readily caused by long heaving waves, than by a short rough sea. The best preventives of sea-sickness seem to be the horizontal posture, as near the centre of the vessel, and therefore the centre of motion, as possible; that is, where the motion is least. Exposure to the open air renders the liability less. Stimulants, combined with sedatives, certainly appear to have considerable effect in preventing or alleviating the affection. A pill, composed of four grains of cayenne pepper, with two or three of extract of henbane, taken at intervals, may be found useful. Creasote is also an excellent antidote.—See *Creasote.*[*] Some persons find themselves less liable to sea-sickness if they take food freely, with others the reverse is the case; the effect probably depends upon the state of the digestive powers of the stomach, temporary or permanent. If these are vigorous, the excitement of digesting food acts probably as a counteragent to the cause of the nausea. Sea-sickness of itself is rarely injurious, but it should be a subject of consideration with persons who are liable, or likely to be, to head-affection, who are the subjects of rupture, prolapsus, &c., how far they should incur the risk of these being aggravated by the mechanical action of vomiting. Some who do not suffer from sickness while on the water, experience nausea and other uncomfortable sensations after landing, an effect, doubtless, due to a partial disturbance of the digestive organs, and probably to biliary disorder. One or two doses of compound colocynth, or compound rhubarb pill, will generally remove the inconvenience.

SIDE—PAIN IN THE SIDE—This very common affection arises from a great variety of causes. If situated high up, in the region of the chest, it may be occasioned by inflammatory affection of the lungs, but in this case will be accompanied with more or less fever, and other symptoms indicative of the disorder.—See *Lungs.*—It may, however, be caused in the same situation, by a kind of rheumatism, or neuralgia of the muscles connected with the ribs. In this form there is not, generally, fever, and the usual signs of affection of the lungs are absent; the pain, moreover, is much more liable to aggravation by pressure externally, and by slight movement, than that of inflammation of the lungs. The affection requires, chiefly, the local treatment of rheumatism; bran poultice, and anodyne and turpentine liniment. The above pains may of course occur on either side of the chest. Pain on the right side, lower down, may be owing to affection of the liver,—see *Liver,*—on the left side to affection of the spleen.—See *Abdomen—Spleen.*—Pain on the left side
however, often occurs as a
affection, sometimes of the h
in either sex. It is most
females, and is then very ofte
of disorder, functional, or oth
womb. Any person becomin
of continued pain in the side
the cause investigated by a m

SIGHT.—See *Vision.*

SILK.—Some persons, wh
bility of the skin, cannot
material next it, find a wove
a good substitute.

SILVER.—The only prepa
metal, much used in the pra
cine, is the nitrate of silv
caustic, and this principally
application; it is however gi
by medical men. For conve
caustic, nitrate of silver is ca
of small cylindrical sticks, whi
generally in silver, or silver
the best having a "quill"
called palladium, to hold t
being found, that in time, t
silver acts chemically upon
silver of the holder. Cheap
glass, gutta percha, &c., are
nitrate of silver in the least
tened, touches the body, it ac
sive, and on the skin leaves a d
or black stain, which is onl
the outer skin is worn off, an
course of time; or, if it is app
hydriodate of potash. If, howe
tic be *rubbed* on the skin, it
cause blistering. The mo
nitrate of silver, being point
different articles, such as *Erys*
low, &c., &c., it is unnecess
them here. Oxyde of silve
been brought prominently bef
cal public by Sir James Eyre,
in some forms of stomach aff
menorrhagia, the author has
ful. It is not a remedy
administration.

SINAPISM.—A mustard
poultice—See *Mustard—Count*

SINGING—is open to the
tions, to the delicate chested
aloud, to the remarks on whi
is referred.

SINKING.—The sensation
at the pit of the stomach, is a
generally connected with diso
tion, and often with overlo
Persons are too apt to have
stimuli for its removal, which
be better effected by the use o
and by regulation of the dige
See *Indigestion.*

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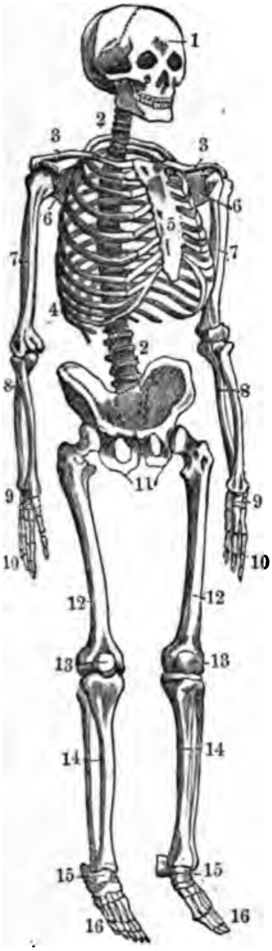
[*] Chloroform, given internally, is also said to be of service. A couple of drops of C
terspoonful of Tincture of Ginger, taken in a wineglassful of water, forms an agreeable stimu
relieve some persons.

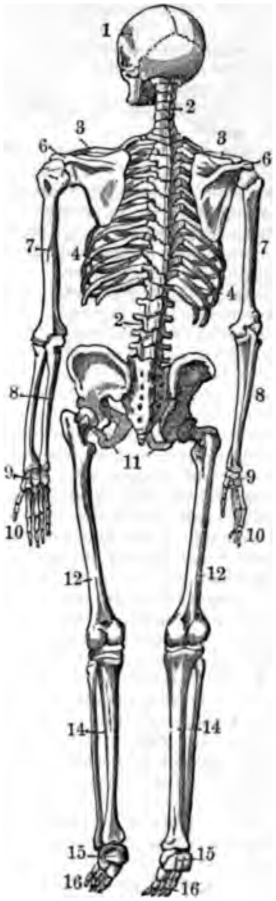
SINUS,—in anatomy is a depression, or avity, or covered tract. The large veins rithin the skull, which are partly formed y depressions in the bone, are named inuses. In surgery, a sinus is a canal, the esult of disease, leading from a diseased art.

SKELETON, HUMAN.—The human keleton is that wonderful frame-work of one, which gives support to, and to which re attached the various soft parts, of the ody. It cannot truly be said that a skeleton is a beautiful object, in the usual sense of the term beauty; but the term beautiful is well applicable to the adaptation of the various parts to one another, and to the manner in which they subserve the object of their existence. When, moreover, the connexion of the different portions of the skeleton, by means of the ligaments, and the action, and mode of action simple and combined, of the various muscles of the machine at large, are considered, when we regard the protection given by the bones

A



B



to important parts contained within the cavities, and to the blood vessels in the limbs, the strength, and yet comparative lightness of the whole fabric; and lastly, the powers of reparation after injury, the word beautiful in another sense, is that which really expresses the admirable perfection of the structure.

The entire skeleton consists of two hundred and forty-six different bones. As the descriptions of the most important of these are given in the separate articles, it is unnecessary to do more here than to point them out by name, on the adjoining figures.—Figs. A and B.—Each bone having the same numbers.

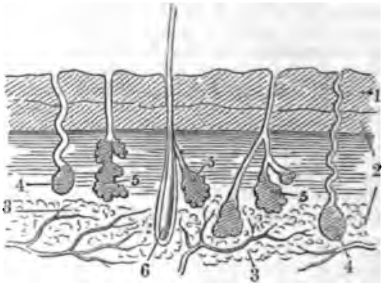
1. The skull, or face bones, including the lower jaw.
2. The spine, composed of the vertebræ, which supports the head, and rests on the pelvis.
3. The collar-bones, or clavicles.—See *Shoulder*.
4. The ribs.
5. The breast-bone, or sternum.
6. The shoulder-blade, or scapula.
7. The arm-bone, or humerus.
8. The fore-arm bones, or radius and ulna.
9. The wrist-bones—eight in number, also called the carpal-bones.
10. The hand, and finger-bones, also called the meta-carpal-bones.
11. The pelvis, or pelvic-bones.
12. The thigh-bone, or femur.
13. The knee-cap, or patella.
14. The leg-bones. The larger, the tibia, the smaller the fibula.
15. The tarsal-bones, seven in number.
16. The foot and toe-bones, also called the metatarsal-bones.

The bones above mentioned do not nearly make up the number of two hundred and forty-six bones. To do this, must be added the small bones of the ear, the teeth, a detached bone, the "hyoid" situated near the base of the tongue, and sundry, what are called, sesamoid bones, which are found regularly in the tendons of certain muscles, such as those of the thumb.

SKIN.—No less wonderful than the bony frame-work of the human body, which we have just considered, is the covering of that body, the skin, which, while it protects, and retains in place the various parts, serves, also, most important purposes in the animal economy.

The skin consists of two distinct formations, the "epidermis" or cuticle, or scarf, or outer skin—fig. A 1—B 1—2,—and the "derma." "Cutis," or true skin—fig. A 2. The skin is continuous with the mucus membranes at the openings of the various cavities, such as the mouth, nose, &c., its epidermis corresponding to the epithelium of the membranes.

A



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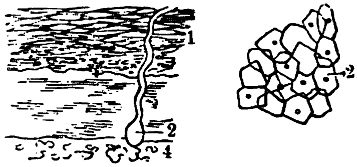

The epidermis is a thin, semi-transparent membrane, which is extended over the surface of the true skin of the body. Apparently, it is without structure, and indeed, was long considered to be simply an exudation which became hardened by exposure to the air; it is now known to consist of regular series or layers of cells—fig. B—1. The outermost layers of these cells, which are exposed to general contact, and to the influence of the atmosphere, are comparatively hard, and are flattened as represented, becoming less flat, and softer, inward—fig. B—1,—as the surface of the true skin is approached, at which point the cells are quite soft and granular. This soft layer of the epidermis, used formerly to be regarded as a distinct portion of the skin structure, under the name of "rete mucosum." The intermixture, in this layer, of "pigment cells," that is, cells containing colouring matter, gives the varied hues to the skin of different races, as most strongly exemplified in the negro; and the appearance of freckles originates from the same cause. On the surface of the epidermis, the flattened cells lie over one another, as represented—fig. B—2. The outermost becoming continually detached and worn off. When these detached scales are retained, as by the hair, or by the clothing, they constitute what is called scurf or dandriff. The epidermis is, as all are aware, insensible. It varies considerably in thickness, on different parts of the body, even at birth, being much thicker on those, such as the heel, back, &c., which naturally require greater protection; it however, becomes immensely thickened on any portion of the body which is subject to continual pressure or friction; of this, the hand of every workman is an example. As all are aware, the appearance of the skin varies according to age, from the soft skin of the infant, or of the bloom of youth, to the flaccidity and wrinkles of age; constitution, also, exerts much influence over the appearance of the skin—See *Complexion*.

The "cutis vera" or "derma" or true skin, which lies underneath the cuticle—fig. A 2—is much thicker than the latter; it consists chiefly of areolar tissue, that is, of interlacing fibres, which inclose the blood vessels, nerves, &c., which make up the substance of the covering. The true skin being abundantly supplied both with blood vessels and nerves, is extremely sensitive, so much so indeed, as to require the protection of the cuticle as a necessity. All are aware of the painful sensibility of the true skin, when the outer skin has been abraded. At its surface, where it is in contact with the cuticle, the true skin is elevated into little eminences, or "papillæ," these are most manifestly developed, on the pulpy extremities of the fingers, and on other places where sensation is acute, each papilla being received into a corresponding hollow, in the soft granular layer of the epidermis.

The deeper layer of the true skin is composed of interlacing fibres already mentioned, and with these are mingled, elastic fibres, and a peculiar form of muscular fibre, the latter being evidenced in action, by the occurrence of what is popularly called goose skin. The deeper layer of the skin internally, rests upon the cellular tissue, fat, &c., beneath—fig. A 3—3,—B 4.

Were the skin required simply for an elastic, sensitive, and complete covering to the body, the structures already mentioned might have been sufficient, but it has other functions equally important to perform, for which provision is made, over its wide extent of surface. The most important perhaps of these functions, is the discharge of the perspiration which is going on continually. The perspiration, is not, as might be thought, a simple exudation of fluid through the skin, but is a regular secretion, and excretion from the blood, by means of innumerable small glands—fig. A 4—4—B 2—which are situated in the deep layers of the true skin. These "sudiparous" or sweat glands, are composed, as represented, of a rounded extremity formed by the convolutions of the tube, which opens to the surface, by means of a spiral duct, about a quarter of an inch long. This duct, in many situations—makes its exit, on the surface of the cuticle, obliquely,—fig. B 2—in such a manner, that it has, as it were, a valvular covering; it does not pierce the cuticle, but this latter membrane is continued down into it, as a lining. In addition to these perspiration glands, the skin is furnished with another set of excreting agents, which closely resemble the above, but which are named the "sebaceous," or oil glands.—fig. A 5—5—See *Sebaceous*. The office of these glands is to separate certain matters from the blood, and to excrete them in the form of an oily matter from the skin, which oil or grease, although it is doubtless an excretion, serves also to lubricate the skin, and to preserve it from cracking from dryness; on this account probably, the sebaceous glands are more abundant in the skins of natives of warm climates, to shield them from the drying effect of the heat. The sebaceous glands have been already alluded to, under the article sebaceous; they are often lobular in structure, frequently communicate with one another by a common duct, and in such situations as the scalp, one or two of them open into each hair follicle—fig. A—6. As already mentioned, the skin in addition to the above, contains blood vessels and nerves abundantly; it also contains absorbent vessels. The number of the sebaceous and sweat glands, particularly of the latter, is almost innumerable, and some curious calculations have been made respecting them, by Mr. Erasmus Wilson, the well known writer upon the skin, who says, "I counted the perspiratory pores on the palm of the hand, and found 3528 in a square inch. Now each of these pores being the aperture of a little tube about a quarter of an inch long, it follows, that in a square inch of skin on the palm of the hand, there exists a length of tube equal to 882 inches, or 73½ feet." "To obtain an estimate of the length of the tube of the perspiratory system of the whole surface of the body, 2800 may be taken as a fair average of the number of pores in a square inch, and 700, consequently, of the number of inches in length. Now, the number of square inches of surface in a man of ordinary height and bulk, is 2500; the number of pores therefore, 7,000,000, and the number of inches of perspiratory tube 1,750,000, that is 145,833 feet, or 48,600 yards, or nearly twenty-eight miles."

From the above exposition of the perspiratory system, the reader will be prepared to learn, that the skin is often the most abundant excretor of fluid in the body, exceeding in this, except under particular circumstances, even the kidney, and also the lungs. According to the most generally trusted experiments, it is found that the average amount of watery fluid exhaled from the lungs and skin of the human body in twenty-four hours, at an ordinary temperature, is about fifty-four ounces, of which amount, thirty-three ounces are attributable to the skin, the remaining twenty-one to the lungs. This excretion of fluid is capable, however, of being largely increased, and it is an ascertained fact, that a stout man undergoing strong muscular exertion, under high temperature, has, in an hour, lost as much as five pounds weight. The perspiration thus depends greatly upon the external temperature of the atmosphere, it is however, considerably influenced by conditions of bodily health. Under ordinary conditions, perspiration takes place insensibly, that is, in the form of vapour, which passing off into the air as it is thrown out, gives no palpable indication of its presence; if, however, it is confined, as by an inverted glass, on the skin, a deposition of moisture at once occurs upon the glass. When the perspiration is so rapidly thrown out, that it cannot be at once evaporated from the surface, it takes the form of sensible perspiration, or sweat, in greater or less abundance. It is evident, that when the external air is greatly laden with moisture, the perspiration will be much less quickly evaporated, and consequently much sooner evidenced than under the reverse circumstances; moreover, that as the kidneys alternate in some measure with the skin, in the excretion of fluid, influences which increase the one must diminish the other, as in hot countries, the cutaneous moisture is much increased, and the flow of urine lessened.

There is no doubt that the evaporation of the perspiration is one great means of keeping the temperature of the body down to its proper level, under exposure to heat; indeed, this is the secret, by which persons have been able to endure, without injury, the heat of an oven of sufficient intensity to cook meat. It is not, however, a mere exudation of simple water, which takes place in perspiration, the mixed fluid which thrown out from both the sweat and the glands, contains a considerable amoun free acid—lactic acid—and of salts, car nates of soda, lime, and ammonia, mu tic acid, &c. To these must be add carbonic acid, and nitrogen, which h also been proved to be excretions fr the skin. According to Andral, the sw is always acid, the sebaceous secret alkaline, the predominance of one or ot giving the characteristic chemical reacti

Simple reasoning might be enough to c vince that the extensive perspiratory ap ratus spread over so large an extent of s and in such active operation, must subse some very important offices in the ani economy. Moreover, the injurious effect which all are aware, as the consequence having this secretion suddenly interfe with, prove that these offices are intimat connected with the health of the syst generally; and, lastly, direct experime have added to the proof. The experime alluded to, are those of M. Fourcault, w demonstrated, that if the transpiration the skin of living animals was prevented means of a coating of varnish, they speed either died in a state resembling suffocati or became the subjects of internal cong tions of blood, especially of the liver. addition to its excretory functions, t skin is endowed with the reverse, becomi at times a medium for absorption of flui gases, or other substances into the syste The fact of gases being absorbed by t skin, adds to the importance of the bo being surrounded by pure air; in fact, some it is thought, that noxious effluvi malaria, &c., are more readily absorbed in the constitution through the skin tha through the lungs. If the body be im mersed for some time in a tepid bath, i gains weight by absorption of water, and i thirst has existed, it is relieved. Certai medicines, again, such as mercury, Spanis flies, rhubarb, &c., affect the constitutio through the skin. Probably, as suggeste by Dr. Combe, even matter which has bee once cast out by the skin, may be re-absorbed by it, and cause disease.

Enough, perhaps, has now been said t demonstrate to all, of what immense importance the functions of the skin are to the animal system, to show, that while this most perfect structure fulfils the palpable office of a protector and coverer of the entire system, it constitutes one of the great channels by which, used up, and therefore noxious matters are cast out from the blood, a channel, too, which cannot be interfered with without its internal coadjutors, the liver, the bowels, the kidneys, the lungs, one or all of them suffering.

Again, if it is reflected, that every moment of our lives, this exudation through the skin is going on, that while the watery fluid escapes, it leaves the solids, the salts, the acid, the grease, behind, mingled with the scales and scurf of the epidermis, and added to this, the dust, &c., which must adhere to the skin, it will give some little idea of what there is to remove from the skin to keep it commonly clean, still more to keep it in that state of healthy activity and freedom which is requisite for health.

The "appendages" of the skin are the hair, nails, &c.

Refer to—*Ablution—Absorption—Hair—Nails.*

SKIN, DISEASES OF.—The diseases and disorders to which an organ—as it may be called—like the skin is liable, must necessarily be numerous. It is exposed, not only to many influences from without, to atmospheric vicissitudes, to the effects of neglect and dirt, of contagion and accident, but it is also liable to influences from within, arising from those internal organs, with which it is so intimately connected, both sympathetically and in function, and it is excited by altered conditions of the blood, for which it performs such important offices.

Very various classifications of skin diseases have been made by different authorities on the subject, with the view of facilitating their distinction from one another, and their treatment. In the following slight sketch, the author has adopted the divisions best calculated to give a clear general idea of the subject; to attempt more would be quite at variance with the character of this work.

The exanthemata, or eruptive fevers, include measles, scarlet fever, small-pox, cow-pox, and chicken-pox, some of the most important affections connected with the skin, which have already been noticed, under their separate articles. Many other eruptive diseases are accompanied with febrile symptoms, but not of such marked peculiarity and uniformity as those which characterize the above; some authors, however, include in the class of eruptive fevers, erysipelas and erythema[*] nettle-rash and rose-rash.

Nettle-rash cannot be better described, than as an eruption which closely resembles nettle stings, both in appearance and in the sensations it gives rise to. When acute, it is generally accompanied with more or less fever. The nettle-rash, in almost all cases, arises from disorder of the digestive organs, caused either by indigestible food, or in some persons by particular kinds of food. Kernels or seeds, such as almond, peach, &c., which contain prussic acid, seem especially apt to cause nettle-rash, and in some individuals even the pips of an apple have been known to produce the disorder. Fish, particularly shell-fish, also bring it on, or mushrooms; also certain medicines, such as turpentine; teething, hurry and agitation of mind in adults, and other irritations, also give rise to nettle-rash. The generally known causes of this affection, indicate the remedy—the removal from the alimentary canal of offending matters. If there is tendency to sickness, and if the eruption appears soon after a meal, an emetic is the appropriate remedy, but whether this is given or not, there should be given an aperient. As acid in the bowels often accompanies the condition, a dose of magnesia with rhubarb is very suitable, or some other antacid may be had recourse to, and, afterwards, castor-oil. External remedies are comparatively of little service in the acute forms of nettle-rash. A lotion composed of carbonate of ammonia and sugar of lead, of each one drachm, in half a pint of distilled or rose-water, will give relief. Dr. Watson recommends flour dusted over the surface. If nettle-rash takes a chronic form, that is, continues, and keeps recurring, after the use of such mild aperients as recommended above, and after regulation of the diet, the case should be seen by a medical man.[†]

Rose-rash occurs both in children and adults, in the form of rose-red patches, of various sizes, somewhat resembling measles in many cases, but of a redder hue. The disease is generally accompanied with some slight constitutional disorder or fever, but the symptoms differ from those which accompany measles. It is devoid of danger, and generally subsides after the administration of a simple aperient. If either rose-rash or nettle-rash are thought to be connected with teething, the gums should be scarified.

A class of skin diseases are called "papular;" they consist essentially, of the elevation of minute "papulæ," or points, upon the surface; to this class of diseases belongs the "red gum," of infants; also, two other diseases named lichen and prurigo, which are both extremely troublesome, from the intense itching with which they are accompanied, and the obstinacy with which at times they resist treatment. The affection named prickly heat, described in a former article, is a species of lichen; and a somewhat similar affection occurs in this country in hot summers. The general directions as to diet, &c., given in the above article, may be useful when the affection occurs. Tepid baths, with or without the addition of vinegar; or sponging with water, to each pint of which a drachm of diluted sulphuric acid has been added, may be tried as a temporary relief to the itching.

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[*] See Erythema.

[†] It has been proved that the appearance of nettle rash is a frequent occurrence in those of gouty and rheumatic constitutions. The treatment requires to be directed accordingly.

The vesicular class of skin diseases—see *Vesicle*—includes chicken-pox and cow-pox, which also may be classed with eruptive fevers, also shingles and similar "herpetic" eruptions—see *Shingles*. One of the vesicular eruptive diseases, "Eczema;" "crusta lactea" has its frequent site upon the scalp and face—see *Scalp*. The class of "pustular" eruptions—see *Pustule*—also comprises various scalp diseases. In many of the affections of this class, however, the pustular eruptions extend over various portions of the body.

The class of "bullæ" are characterized by the development of "blebs" or small blisters, which resemble those occasioned by a scald, or by the use of a common blister. This form of skin disease is generally associated with great debility of constitution.

The "scaly" diseases of the skin are many of them extremely obstinate, and sometimes resist every form of treatment. Of these, "Lepra" is characterized by elevated, scaly, circular patches, distributed in greater or less number over the skin. It is a disease totally distinct from the "Leprosy" of the Jews and other ancient nations. Tubercular diseases of the skin are equally difficult to get rid of. Stains, mother-marks, or "nævi," freckles, &c., are all included in the category of skin affections; they are noticed under other articles.

No description could possibly enable an unprofessional person to distinguish one chronic skin disease from another, nor would it answer any good purpose if the knowledge could be imparted. These affections are, in a majority of instances, indicative of some peculiar disordered condition of the blood, or of the digestive processes, primary or secondary, which require the strictest investigation of a medical man, and, probably, a long continued course of treatment—even under the best directed remedial measures, they often prove intractable. Very many chronic skin diseases are connected with debility, and of course, when such is the case, tonic remedies are useful; a smaller proportion are owing to a plethoric state of the constitution; some appear hereditary, and others are connected with the venereal taint. Whatever the case be, however, those who suffer, may be assured, that their best course will be at once to put themselves under proper medical advice, and, if they can, under the advice of a practitioner who has made the skin a department of special study. Above all things, let sufferers beware of quack ointments, lotions
like; they may inflict upon themsel
arable injury. In the event of any
curring before advice is procured,
tem is full, and inclined to fever,
advisable, and one or two gentle n
followed by a saline aperient, ma
with advantage. If the system be d
whilst all sources of heat and irr
avoided, nourishing diet should
and the bowels regulated. When
agrees, it is very suitable in ma
skin affections, and there are fev
tepid bathing does harm, it clear
of any irritating matter, whilst i
it is, at all events, generally agree
feelings of the patient. Another
the enforcement of tepid bathing
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perhaps the majority of skin d
connected with constitutional disc
are almost entirely due, and oth
aggravated, by inattention to c
among certain classes.—See *Ablut*

It has been stated that the n
skin diseases are of constitution
and such is the case; some, hov
not so. Itch, probably, is simply
presence of the insect; and th
skin disease—eczema—from whi
bakers, and others suffer, from
flour, sugar, &c., is undoubtedly
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if the hands are protected from th
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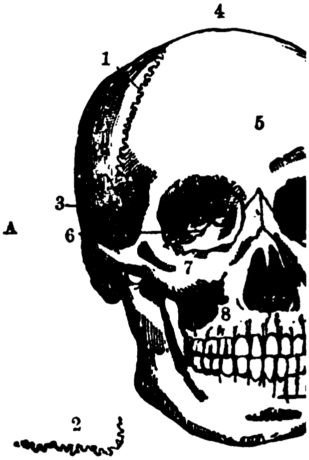
If the eruption is obstinate, the o
red oxyde of mercury, ten gra
ounce of lard, is of service.*

SKULL.—The skull—fig. A.



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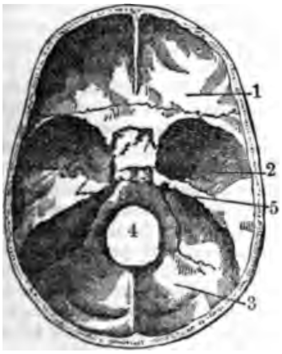
* Recent microscopic researches have thrown a great deal of light upon the subject of skin d
have shown that many of them owe their origin to the presence of parasites—animal and veget
cially the latter. In many of these, by killing and preventing the growth of the parasites, a spe
the disease is effected.

the brain, and forms the support for the features, and organs of the special senses. It is composed of twenty-two separate bones; of these, eight are devoted to the cranium or brain-case alone, the remaining fourteen are the bones of the face. These bones, with exception of the lower jaw, are united by means of joinings, named "sutures." In one form of suture the margins of the different bones are, as it were, toothed—fig. A, 2—the toothed edge of one fitting into the indentations of another. At fig. A, 1, is seen such a suture, which forms the junction between the "frontal," or forehead bone, and one of the two "parietal" bones, which principally form the arched vertex, or "crown," of the skull. At fig. A, 3, where the parietal is joined to the "temporal," or temple-bone, the suture is different, being formed by the thin margin of the latter bone overlapping the similarly formed edge of the former; where these bones overlap, their edges are roughened, so as to give greater adherence. In another form of suture, the adjoining edges of the bones are simply roughened. In fact, the form of the bones of the skull individually, their junction, and the shape of the whole case, is constructed with reference to strength and lightness at the same time; indeed, so strong is the arch of the vertex, or crown of the head—fig. A, 4—formed by the parietal and frontal bones, that in falls on the head, instead of this portion of the skull giving way, it is not uncommon to find that the fracture, if it occurs, is in the opposite portion of the skull where it is supported by the spine. When the skull is sawn through transversely, about its middle, it presents the oval form, as represented—fig. B.—and if the brain be removed, the interior portion of the skull, or floor, on which the brain rests, is seen as in the cut, consisting of anterior—1—middle—2—and posterior—3—depressions or "fossæ;" the anterior and middle being adapted to receive portions of the larger brain or cerebrum; the posterior being the receptacle of the lesser brain or cerebellum, on the top of which the posterior portion of the large brain is situated.—See *Brain.* The large opening—4—in the base of the skull gives passage to the spinal cord or marrow. There are a number of smaller openings in the base of the skull for the transmission of nerves, and for the passage of blood-vessels. Within the prominent portion of bone—5—is contained the internal auditory apparatus.—See *Ear.* The interior surfaces of the skull are variously grooved and marked, more particularly for the accommodation of the blood-vessels, especially the large veins connected with the head circulation. The bones of the skull do not each consist of one solid piece of bone, but of an inner and outer "table" or plate of dense bone, separated by a lighter and more cellular portion, which is called the "diploe."—See *Diploe.* The depressions and hollows of the outer table do not entirely correspond with those of the inner.

The frontal or forehead bone—fig. A, 5—a bone of the cranium or brain case, is also a bone of the face, entering largely into the formation of the eye sockets—6, 6. These conical cavities—see *Eye*—are made up by the combination of other bones, such as the cheek-bone—fig. A, 7—the upper jaw-bone—8—&c. At fig. A, 9—is seen the hollow for the nostrils, divided in the centre.—See *Nose.* The lower jaw-bone—fig. A, 10—fig. C—of the figure represented, is jointed to the skull by means of the rounded heads—fig. C, 1, 1—which

B



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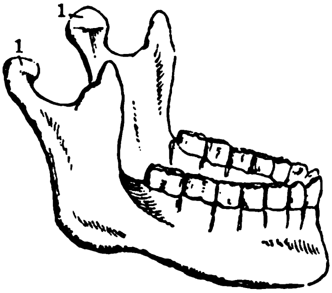

fit into corresponding hollows in the skull. This is a specimen of the hinge-joint. The shape of the lower jaw varies greatly during the different periods of life; it also differs considerably in different races of human beings, exhibiting, as well as the upper jaw, a tendency to become more projecting as the descent is made in the scale of civilization. The variations which are observed in the forms, and in the relative proportions of the different regions of skulls belonging to various tribes of the human family, is a study of the greatest interest. The bones of the skull and face are closely covered, like other bones, by a membrane or "periosteum," in this case called the "pericranium." The scalp is connected with the skull by means of a loose easily torn cellular tissue.—See *Scalp*.

Refer to—*Brain*—*Fractures*.

SLEEP.—The explanation of the actual physiological condition which constitutes this periodical phenomenon of life, has often been attempted, but the *essential* nature of the condition remains unexplained. The external phenomena manifested during the state of sleep are familiar, and, in some measure, those that take place within the body during the state are known; but there the knowledge stops.

Sleep may be defined as that state of natural unconsciousness, in which the voluntary powers are in a condition of insensibility, whilst the involuntary functions of nutrition, secretion, &c., are going on, increased, diminished, or unaltered, according to circumstances. The cause of the sensorial inactivity of the voluntary system, and of the apparent disconnexion of the mind with outward things, and, as it appears to us on awaking from sleep, disconnexion with thought generally, has been variously explained. A kind of congestion of blood in the head, caused by the compression of the veins in the neck by certain muscles, has been suggested; the most general idea, however, is, that sleep is the consequence of exhaustion of the usual nervous stimulant in the services of the waking hours, or of exhaustion of this, along with waste of the tissues generally. As put by Liebig, "Since in different individuals, according to the amount of force consumed in producing voluntary mechanical effects, unequal quantities of living tissue are wasted, there must occur in every individual, unless the phenomena of motion are to cease entirely, a condition in which all voluntary motions are completely checked, in which, therefore, these occasion no waste. This condition is called sleep." Dr. Carpenter puts the same ideas somewhat in a similar manner, saying, "The occasional suspension of sensorial activity is requisite for the reparation of the destructive effects of that activity; so that, however unfavourable may be the external circumstances, sleep will supervene as a necessary result of exhaustion, when this has been carried very far." That exhaustion is one, perhaps the one great condition of sleep, is unquestionable; but that it is not the only condition is no less true, unless, indeed, the statement of Liebig be adopted unreservedly, that wine, narcotics, and other sleep-inducing agents, produce a state of artificial exhaustion, by putting a stop to the regular changes of matter, especially its union with oxygen, which is constantly going on within the body. Moreover, there is a state of over-exhaustion both of mind and body, which tends to keep off sleep, rather than to induce it. Further, there is a most undoubted connexion between the periodical revolution of the twenty-four hours which constitute our day, and the periodical requirements and renovations of sleep.

It is observed by Dr. Whewell, in his *Bridgewater Treatise*, that "Man in all nations and ages has taken his principal rest once in twenty-four hours, and the regularity of this practice seems most suitable to his health, though the duration of the time allotted to repose is extremely different in different cases. So far as we can judge, this period is of a length beneficial to the human frame independently of the effect of external agents. In the voyages recently made into high northern latitudes, when the sun did not rise for three months, the crews of the ships were made to adhere with the utmost punctuality to the habit of retiring to rest at nine, and rising at a quarter before six; and they enjoyed, under circumstances apparently the most trying, a state of salubrity quite remarkable. This shows, that according to the common constitution of such men, the cycle of twenty-four hours is very commodious, though not imposed upon them by external circumstances. No one can maintain with any plausibility that the period may be lengthened or shortened without limit. We may be tolerably certain that a constantly recurring period of forty-eight hours would be too long for one day of employment, and one period of sleep, with our present faculties; and all whose bodies and minds are tolerably active will probably agree, that independently of habit, a perpetual alternation of eight hours up and four in bed, would employ the human powers less advantageously than alternations of sixteen and eight."

"The succession of exertion and repose in the muscular system, of excited and dormant sensibility in the nervous, appears to be fundamentally connected with the nervous and muscular powers, whatever the nature of these may be.

"The necessity of these alternations is one of the measures of the intensity of those vital energies; and it would seem that we cannot, without assuming the human powers to be altered, suppose the intervals of tranquillity which they require to be much changed."

The amount of sleep necessary for an individual depends greatly upon time of life, upon natural constitution, or upon acquired habits. The infant, it is well known, spends most of its early days in sleep; in adult life, the hours of repose are reduced to the moderate average of from six to eight hours, whilst, in advanced life, that is before the period of decrepitude, the amount of sleep is still further diminished. By Liebig, this is reduced to a regular calculation. After giving the calculation, as computed in mechanics, of the force available for mechanical purposes in an adult man in a certain period, he says, "By the restoration of the original weight of his body, the man collects again a sum of force which allows him, next day, to produce, without exhaustion, the same amount of mechanical effects. This supply of force is furnished in a seven hours' sleep," provided, of course, sufficient nutriment has been given during the waking hours, from which the reparative powers can draw their supply of new material. Further, if the man exhaust, use more out of his system than can be restored or repaired, during the seven hours, or whatever other amount of sleep he may take, his strength must diminish. Practically, therefore, sleep is a periodical natural condition, in which the voluntary or exhausting powers, both of body and mind, being at rest, the involuntary or reparative powers have, or ought to have, time for restoring the material of the living body, which has been used up during the hours of wakeful activity. Such being the case, it is evidently most important, not only that a supply of sleep adequate to the reparative requirement of the system should be procured, but that the benefit derived from the sleep should not be impaired by contingencies likely to interfere with the processes which are actively carried on during the state of unconsciousness. These processes—devoted to the repair of the structures—must evidently be more connected with the secondary assimilation of nutriment, that is, with changes in the nutriment after it has entered the blood, than with the primary assimilation in the stomach. This, probably, is one reason why nourishment is usually more beneficially taken some hours before the ordinary night's rest; it permits the result of the digestion of the meal, not only to enter the circulation, but to be ready for the processes of reparation which take place during repose. It would almost appear as if these reparative processes were carried on at the expense of others which are more active during waking hours; for, during sleep, the respiration is diminished in frequency, the pulse is slower, the action of the brain, as observed in Blumenbach's case, diminished. At the same time the temperature sinks, and the nervous power is evidently diminished, and with it the power of resistance to morbific influences, such as malaria. Indeed, as observed elsewhere in this work, this diminished condition of nervous power is not recovered for some time after waking, and by the weak not until food has been taken. —See *Breakfast—Early Rising, &c.* The perspiration, for obvious causes, is generally increased during sleep.

The amount of sleep required by different individuals varies greatly; as already stated, the infant requires most, sleeping at least twenty hours out of the twenty-four. The hours of sleep which are requisite, diminish up to adult maturity, when from six to eight hours is the average requirement during the most active periods of life. There are, indeed, instances of persons who could do well with a much smaller average of sleep—four, three, two hours, or even less; but these are exceptional instances, and the individuals have generally been persons of strong constitutional powers. The extension of the hours of sleep beyond the term of eight, or at least nine hours, is generally the result of habitual indulgence. Moreover, when sleep is thus taken excessively, more is required, or thought to be required, on account of the debility which arises from consequent excessive action of the skin. Women, as a general rule, require rather longer sleep than men, and it is said that tall and bulky people do so more than those who are the reverse.

Many of the external conditions requisite for sound and healthy sleep having been noticed under "Bed" and "Bed-room," it is unnecessary to repeat them here; it may be added, that no portion of clothing which tends, either in the way of wristband or of neck fastening, to confine in the least degree, should be worn. Especial attention should be directed, especially in the case of children, to the injurious effects of sleeping with mouth or head covered over with the bed-clothes. The practice is a common but most hurtful one.

Some persons, Napoleon for instance, have appeared to possess the power of falling asleep almost momentarily, of as it were putting themselves to sleep, and the faculty has been quoted to prove that sleep was an active state rather than a passive one. It would rather prove, that the mind has so far power over the body as to restrain the tendency to sleep until it can be conveniently indulged in, and that as soon as the powers of body and mind are surrendered to its influence, it at once takes possession of them. The power of certain external agencies, soothing sounds in particular, in inducing sleep, are well known, and may be taken advantage of.

In the above remarks, sleep has been considered as a natural healthy process, either the result of exhaustion, nervous or general, or the consequence of a periodical condition of the body. It has been regarded as a process tending to health, to recruit the exhausted powers of body and mind. But sleep is often not a natural process: it may be occasioned by excessive use of alcohol, or by narcotic drugs, by the action of heat, or by the depression of extreme cold; it may result from over fulness of blood, or from deterioration of the vital fluid; in the latter case, generally, it is probable, by the accumulation of carbonaceous materials, consequent upon imperfect aëration of blood in the lungs, or its imperfect purification in the liver—See *Biliary Disorder*. Again, heavy, very heavy sleep, is a common accompaniment of chlorotic or anæmic conditions of the system.—See *Anæmia*. In such cases, although, the powers of the body are in some degree recruited by the sleep, it is not followed by the same feelings of health as the natural sleep of the properly but not over-fed—well exercised, but not exhausted—worker of either mind or body, provided the worker of the mind neglect not the physical exercise.

Sleeplessness arises from various causes. It is often a distressing concomitant of old age—See *Age*—but mental causes, anxieties, excitements, distresses most frequently give rise to it, and especially intellectual exertion of the mind late in the evening, and just before retiring to rest. Want of due physical exercise also occasions sleeplessness; it is the result of dietetic errors, either eating heavy meals too late in the evening, retiring to rest without sufficient nourishment, and especially is it caused by strong tea or coffee taken at a late hour, in some people at any hour.—See T
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Disturbed sleep is almost a c
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children is very common, taking ei
form of moaning or restlessnes
grating of the teeth, or talking; of a
suddenly, frightened and screaming
getting out of bed, when it becom
nambulism or sleep-walking. The
bility of the nervous system in c
renders them liable to be thus affe
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especially by worms, &c.; in such
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If the affection does not seem to dep
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of mental excitement which can increase this, must be avoided; cold laving of the head every morning, and the cold douche to the back should be used, and the nervous system tired before bed-time by active but not exhausting exercise.

Somnambulism, or sleeping-walking, in adults, belongs to the class of mental, or rather psychological, phenomena not yet generally understood; it evidently resembles, if it is not identical with, the mesmeric condition of which some, and generally the same class of persons, are susceptible. Where a tendency to sleep-walking does exist, it is perhaps scarcely requisite to remark, that every means of guarding the person, so unfortunately affected, from accident, should be had recourse to.

Night is the natural season for rest; but in warm climates, a day sleep, both in man and animals, seems beneficial. In temperate climates, after the age of childhood, it is not an advisable custom. After any unusual fatigue, however, a short sleep before —not after—dinner, is often very serviceable.

Refer to — *Breakfast* — *Dreams* — *Early Rising*—*Night*, *&c.*

SLOUGH.—A slough is a dead portion of tissue cast off from a living animal body*

SMALL-POX.— This dreaded disease belongs, like measles and scarlet fever, to the class of eruptive fevers; it is, too, like these diseases, characterized by its own special constitutional symptoms from the commencement, independent of the eruption which stamps its character.

Small-pox commences with shivering and languor, followed by heat, thirst, and headache; so far, these symptoms mark the beginning of most other severe febrile affections; added to them, in the disease in question, there is usually either pain or great oppression at the pit of the stomach, and not unfrequently vomiting; there is severe pain in the back or loins, and in children not uncommonly, more rarely in adults, convulsions. On the third day after the setting in of the above symptoms, usually towards evening, minute red spots, somewhat resembling flea-bites, show themselves on the forehead, the neck, the wrists and arms, the chest and abdomen, and finally on the extremities; this, at least, is the course of the eruption, but it does not reach the lower extremities till at least the fourth day. If the eruption on the parts first mentioned is discovered over-night, by morning it is much more distinct, and the spots are much more numerous than they first appeared to be; they are, too, slightly and conically elevated—are, in fact, "papular;" from this they continue enlarging; on the third day after their appearance they evidently contain a little fluid on their summits, which gradually increases in quantity, giving either a globular form to the spot, or an umbilicated or wheel-like form, resembling that which is seen in cow-pox, the centre of the vesicle or pustule being depressed, tied down as it were, in the centre; towards the fifth or sixth day of the eruption, this peculiarity of form disappears, the pustules become real pustules, they contain pus or matter; about the seventh or eighth day of the eruption they begin to "crust," that is to break, allowing their contents to escape and then to harden into a crust or scale. At this period of the disease, that of "maturation," the eighth day of the eruption, the eleventh of the disease, what is called the secondary fever comes on; the febrile symptoms which had more or less abated after the eruption appeared, become again aggravated, and continue so for a few days. At length, if the case has progressed favourably, towards the end of the third week from the first showing of the eruption, some of the pustule scabs begin to separate and fall off, leaving either a pit or a stain of a deep red colour.

Such are the most prominent characteristics of small-pox, as they show themselves upon the face to the eyes of an observer, the progress of the eruption on the body generally, must be reckoned as twenty-four hours, and even more on the lower limbs, later than the face. Much of the severity and danger of small-pox depends upon the amount of the eruption: whether it is what is called "discrete," that is, each separate spot distinct from another; confluent, when the spots all run into one another, forming one mass of eruption; or semi-confluent, a medium between the two former. There is of course every degree of severity. It need scarcely be added, that the regular confluent small-pox is the most dangerous disease. As a general rule, the eruption of small-pox is thickest on the face, and its variety, confluent or not, is generally reckoned from its amount in the above situation. The skin surrounding each pustule is inflamed and swollen, this inflammation and swelling being of course more severe according to the severity of the eruption; in consequence of it, the features are swollen and disfigured, and the eyelids closed. The eyes partake of the inflammation of the skin, and are apt to be much affected, discharge of matter taking place from beneath the eyelids. The nostrils, mouth, and throat, are usually more or less affected with small-pox pustules; indeed, one of the most serious dangers apt to arise in the course of small-pox, is the throat affection, and any signs of impeded breathing are always to be most anxiously watched and cared for. Unless the attack of small-pox is extremely modified, as by previous vaccination, the pustules on the face almost all run through their regular course as above described; in many cases, however, they do not do so on the body, but on the eighth day, that is, when those on the face are discharging their contents, those on the trunk and lower limbs begin to "go back," as it is called, or wither up, without the formation or discharge of matter.

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* Bed sores are the result of sloughing, more or less complete, of the skin and subjacent cellular tissue, occasioned by pressure; some of the most frightful sloughs it is possible to witness are thus caused in old people.

When an attack of small-pox comes on with great severity, and when the constitutional powers are, as it were, overwhelmed, a person may sink early in the disease, but more generally the chief danger is about the time of the secondary fever, either from the affection of the constitution, or from that of the throat and from impeded respiration. Small-pox may show itself in an extremely mild form, there not being more than a dozen spots—if so many—on the body altogether; this generally occurs when the disease is modified by previous vaccination, or has been introduced into the system by inoculation.

In the early stages, small-pox may be confounded with other eruptive diseases, especially with measles, which disease its eruption in the first stage somewhat resembles; this mistake, however, can scarcely occur if the distinct characters of the constitutional symptoms of the diseases are kept in view; when the eruption has advanced a little way there can be no confusion.

It need scarcely be said, that an attack of small-pox, of even ordinary severity, is not for unprofessional management. If the disease be prevailing, and if an individual exhibits the symptoms above detailed, small-pox may fairly be suspected.

The appetite, probably, is totally gone from the first; but in such cases, food of the lightest kind only must be taken, and cooling drinks* nothing is better than the ordinary effervescing powders—may be allowed freely; or Seidlitz powders, to keep the bowels lax, without purging; or castor-oil, or other mild aperients, must be given if required. But, although the bowels should be kept easy throughout the disease, when the eruption is coming out all attempts at purging should be dropped, cooling saline medicines being continued. If the surface is very hot and dry, sponging with tepid water is useful and agreeable. When the secondary fever comes on, it may be requisite both to act more freely on the bowels by means the aperients already mentioned, or b senna, or Epsom salts, well diluted, or som of the aperient pills, while at the same tim the distressing restlessness requires opiu twenty drops of sedative solution, or fiv and-twenty of laudanum at bed-time. I some cases, if signs of sinking come on, wit weak pulse, tardy eruption, and pustul not filling, all lowering measures are to b avoided, and good broths, wine, wine whe &c., administered, as the case may requir The principles of treatment are, in the ons of the disease to moderate febrile actio and through it the eruption, by coolin aperients; when the eruption is coming ou to interfere but little beyond keeping th bowels easy, regulating the diet accordin to the strength; and, again, in the stage o secondary fever, to purge moderately.

If much swelling and distress about th throat should result in the course of th disease, leeches ought to be applied, in number proportioned to the age and constitutio of the patient. This treatment employed i a case far distant from medical aid migh save life.

In any case, small-pox is a fearful disease and should be under medical care whe possible; circumstances, however, ma occur in which the above directions wil prove useful. The disfigurement which i apt to result in consequence of the mark left upon the face by small-pox, is an additional aggravation. Various methods fo its prevention are resorted to. The ligh being supposed to exert some influence o the progress of the pustule, is often excluded from the room, and as the eyes are apt to be sensitive, the expedient is good in more ways than one. Opening each separate pustule with the point of a lancet, and touching the interior with a pointed stick of lunar caustic, has been found of use. In France, a mercurial — the vigo — plaster is used being put like a mask over the face, but i may cause heat and unpleasant sensatio in the head; and, therefore, a better appl cation is the common mercurial ointme thickened with starch powder, smear over the face on the second or third day of the eruption, and allowed to remain till the scabs separate.† It is generally some months before the stains of even a mild attack of small-pox disappear. Small-pox is highly contagious, and may even be communicated by the dead body. The attack generally comes on about ten or twelve days after exposure to contagion.‡ As all, perhaps, are aware, until the discovery of vaccination by Jenner, the system of inoculating small-pox, as introduced into this country from Turkey, by Lady Wortley Montague, was generally followed, and certainly was a great boon; it substituted, in almost every case, a mild form of the disease, for, to say the least, one of uncertain severity; and, moreover, the disease was imparted to a constitution which had by preparation been placed in a favourable condition for its reception, and for its development in a mild form. To counterbalance, however, these advantages, there was the serious consideration, that, although a case of inoculated small-pox might in itself be a trifling affection, devoid of danger, it was capable of originating the disease in another person, in its most virulent form. This drawback Jenner's discovery removed, and, therefore, rightly, vaccination has taken the place of inoculation, and rightly, government has put it out of the power of foolish people to do mischief, by imposing a heavy penalty upon the practice of inoculation for small-pox.

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* A drachm or two of dilute nitric or sulphuric acid, added to a pint of water, and sweetened with a little sugar, is a very agreeable drink, and, being cheap, is very suitable as a fever drink for the poor. Dr. Watson recommends a drachm of chlorate of potash dissolved in a pint of water as a drink.

† It may be positively asserted that no method has yet been discovered by which pitting may be prevented *in bad cases*. The best application to the pustules when they are hot and itchy is carron oil, which *may be* applied with a feather. It is made by mixing equal parts of linseed or, better still, olive oil and lime *water*

‡ *A year or two since a new remedy, the "Sarracenia purpurea," was introduced from North America, ossessing almost specific remedial powers in the treatment of small-pox. It entirely failed to support its ited reputation.*

The question of the relative values of cow-pox or vaccination, and inoculated small-pox, having been alluded to in the article on the former, need not be repeated here.

Refer to—*Cow-pox.*

SMELL.—See *Nose.*

SMOTHERING.—See *Suffocation.*

SNEEZING—is a convulsive or spasmodic effort, the result of reflex action, originating in irritation of the lining membrane of the nostril, by which air is forcibly sent through the passage so as to expel any cause of irritation. Sneezing is one of the first symptoms of cold, of influenza, of measles, and of diseases which involve the air-passages. Continued sneezing is a spasmodic affection said to be relieved by emetics.

SNUFF—habitually taken, is injurious, and a common cause of dyspepsia. As a counter-irritant, in some forms of headache, snuff proves serviceable.—See *Tobacco.*

SNUFFLES—a name sometimes given to the catarrhal affections of infants.

SOAP—is a compound of fat or oil with alkali, which is usually soda. Tallow and other cheap fats are used for the commoner soaps, and yellow soap has about a fourth part of resin and palm-oil in its composition; it is the resin which makes it irritating to some skins.[†] Windsor soap has the addition of olive-oil. For soft soaps potash is used instead of soda, the medicinal soft soap being composed of potash and pure olive oil. Soap of any kind is an antidote in poisoning by the mineral acids, and might be used in the absence of better remedies.[‡]

Refer to—*Castile Soap—Plaster, &c.*

SODA.—This well-known and extensively used alkali, is now manufactured almost entirely from common salt, which is a muriate of soda.—See *Salt.* Soda is best known in the form of its carbonates, or subcarbonate, and bicarbonate; the former being largely used domestically, the latter medicinally, and for some domestic purposes. The subcarbonate of soda, or as it is commonly known, "soda," being more irritant, and not so pleasant as the bicarbonate, the latter is generally employed in medicine, its antacid properties being similar to those of potash, but rather weaker. It is usually sold in the form of white powder.

Bicarbonate of soda is largely used for making the common "effervescing soda powder.—See *Effervescing.* Many dyspeptic persons take it habitually, as an antacid. The habitual use of soda internally, even in comparatively small quantity, cannot be too strongly condemned; it undoubtedly exerts a most debilitating effect upon the stomach, and also upon the system, at large; many persons injure themselves by its use. The usual dose, as an antacid, is from ten to twenty grains in solution.

SODA-WATER — properly so called, is water containing about twenty grains of bicarbonate of soda to the half-pint, and strongly impregnated with carbonic acid gas, but a good deal is made without the addition of soda at all. When used simply as a drink, this omission is unimportant, but not so when it is required as an antacid. As a drink in febrile diseases, soda-water is often beneficial, and much relished, but should not be given in too great quantities at once, otherwise the gas may cause injurious and uncomfortable distension.—See *Effervescing.* When a bottle of soda-water has been opened and re-corked in a sick-room, it should be well corked, *secured by tying,* and inverted in a jug of cold water; in this way the gas is preserved, but if the tying over is neglected, it very probably occurs, that the gas, especially if the situation is a warm one, forces out the cork, and the bottle out of the jug at the same time, spilling the fluid, and, what is worse, making a sudden noise that may startle, and thus seriously injure, an invalid.

Milk and soda-water is thus made:—"Heat nearly to boiling a tea-cupful of milk, and dissolve in it a tea-spoonful of refined sugar; put it into a large tumbler, and pour over it two-thirds of a bottle of soda-water.[§] This is an excellent mode of taking milk when the stomach is charged with acid, and consequently is apt to feel oppressed by milk alone."[*]

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[*] Thomson's *Sick Room.*

[†] Some people suffer much from irritation of the skin of the face after the use of soap, and this may be avoided by dipping the face in water to which a little lime juice has been added.

[‡] Medicated soaps of various kinds are now used in the treatment of skin diseases.

[§] Carrara-water is an excellent substitute for the soda-water.

Chloride of Soda is the "Disinfecting Liquor of Labarraque." It is used medicinally by medical men for disinfecting purposes. There are better preparations. --See *Chlorine.*[*]

Phosphate of Soda, or tasteless salt, is a mild aperient, which possesses the advantage of having so little taste that it can be given in soup; the dose is half an ounce.

Sulphate of Soda, or Glauber salt, was for long the commonest aperient in use, but has been displaced by Epsom salt, which much resembles it in action; the dose of Glauber salt is from half an ounce to an ounce, dissolved in water. The addition of a few drops of dilute sulphuric acid diminishes the nauseous bitterness.

Refer to — *Borax* — *Rochelle Salt* — *Salt, Common.*

SOLANUM.—See *Dulcamara.*

SOLUTION—is the disappearance of a solid body in a liquid menstruum or solvent. The colour of the liquid may be changed, but if perfect solution has taken place its transparency is unaltered. The solubility of bodies, such as salts of various kind, in liquids, varies greatly, generally it is increased by heat, but not always. The minute state of division in which a body exists when in solution, renders this form especially favourable for the development of medicinal action.

SOMNAMBULISM.—See *Sleep.*

SORE-THROAT. — **Quinsy.** — Sore-throat is not only a concomitant of other affections, such as scarlet-fever, but is one of the most frequent effects of common cold. Some persons are peculiarly liable to it. One of the simplest forms of throat affection from cold, is relaxation of the uvula.—See *Palate.* Perhaps on waking in the morning, the sensation of there being something in the throat which requires to be coughed up, is experienced, and along with this, tickling cough, from the uvula irritating the top of the windpipe. The condition is easily discovered by means of a looking-glass, the uvula appearing longer than usual. Frequently the affection passes off in the course of a few hours; if it does not, the use of an astringent gargle—see *Gargle* will remove it.[†]

Sore-throat may be simply inflammation of the mucous membrane of the throat; there is an uncomfortable feeling of roughness or rawness about the fauces and tonsils, with some pain in swallowing, probably accompanied with constitutional symptoms of cold, shivering, &c. This form of sore-throat may pass away in the course of a day or two without going further, or it may spread by extension into the air-passages, causing cough and catarrhal symptoms. It is this form of the affection which is often quickly relieved by the use of the sal prunelle balls, one or two being allowed gradually to dissolve in the mouth. It is generally best treated as a common cold—see *Cold*—with the addition of hot bran poultices up the angles of the jaws, and the use of hot gargles of simple warm water or gruel. This treatment is better than the mustard-plaster and hartshorn and oil, resorted to by some; these, however, may be advantageously used at a later stage. Another and highly dangerous sore-throat, of an erysipelatous character, sometimes prevails, and requires the most active measures of the medical man; the most effectual treatment consisting in pencilling the whole of the inflamed throat, either with the solid lunar caustic or with the solution.—See *Erysipelas.* The great danger from this form of sore-throat is its extension to the larynx and air-passages, when it most frequently proves fatal.[‡]

Another serious form of sore-throat in children, ending in croup, is described under the article on the latter disease.

In quinsy, the inflammatory action is deeper than in the above-mentioned forms of the disease, and affects the substance of the tonsils and surrounding tissues, it usually ends in the formation of abscess. Quinsy is sometimes a most distressing disease, the swelling caused both by the inflammation and by the matter, preventing the swallowing even of fluids, which, when the attempt is made, instead of passing down, regurgitate into the nose; in bad cases the breathing is impeded, and when this occurs the case must always be regarded seriously. The feeling attendant on quinsy is rather one of extreme distress than of acute pain, except when the attempt to swallow is made, at which time the pain is often greatly complained of as shooting up to the ears. In some cases the swelling extends down the neck, and completely under the jaws, affecting the tongue and the salivary glands. When this occurs, the flow of saliva is generally profuse, and in all cases there is formation of much stringy mucus about the tonsils. The voice is thick and husky, the tongue very much furred, and the breath offensive. Along with these local symptoms of quinsy, there is always more or less fever, and if the disease be long continued, considerable depression from the deprivation of nourishment. The treatment of quinsy in the first instance, is like that of common cold. If the symptoms are severe, and if the person has suffered from the disease previously, from four to six leeches may be placed under the jaws in the commencement of the attack, bran poultices, hot gargles and steaming being used, with active purging at first. If the patient can swallow it, medicine in the effervescing form always gives relief, by clearing the mouth and throat; nothing answers better than the common soda effervescing powder, with the addition of six or eight grains of nitre, in full habits; or of a tea-spoonful of nitrous ether in weak constitutions, in each dose. The above measures may be continued until the matter, if it forms, discharges. When this occurs, the distress, which has perhaps been great, disappears at once, and convalescence, generally rapid, commences. The discharged matter, which is usually offensive, may flow out in a perceptible gush, and be spat from the mouth, or it may be unnoticed, and ooze away, passing down the throat. The hot poultices and gargles should be continued to the throat for twelve or eighteen hours after the discharge of the matter, after that time an acid or astringent gargle will generally be most serviceable and grateful, and the poultices may be replaced by flannel, and perhaps by stimulant liniments. At this period, too, the patient, unless very much reduced, should be tolerably freely purged; at the same time good nourishment, broths, and, if requisite, wine being permitted.

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[*] See also Appendix—Disinfectants.

[†] The late Dr. Hannay published a number of cases in which the inflammation was arrested by the *administration*, on the first appearance of the disease, of very finely-powdered gum guaiac, suspended in *mucilage of gum* arabic, every fourth or sixth hour.

[‡] *Since* the above was written (10 years ago), that most dangerous of throat affections, Diphtheria—by *many thought* to be of an erysipelatous character—has been established in Britain.—See Appendix, article *Diphtheria.*

Blisters are sometimes used in quinsy; at the very commencement they *may* be useful—the author prefers the poultice. It is said that powdered guaiac, given in half-drachm doses every six hours, at the commencement of quinsy, will frequently cut short the disease.

A person who has suffered from, or is subject to quinsy, should, after an attack has passed off, use every means of strengthening the throat; by this the attacks may be greatly prevented. Any of the astringent gargles may be used after quinsy, but none perhaps answers better, or is more accessible to the poor, than the decoction of oak bark. This ought to be used night and morning for some weeks, and when its use is dropped, the person should acquire the habit of gargling the throat with cold water at the above times, *as a regular practice*, and at the same time should, *habitually*, lave freely with cold water, or salt water at first at least, all around the throat. In this way a tendency to quinsy may be greatly overcome. Further, all unnecessary muffling, either by fur or otherwise, about the neck, should be avoided, for there is no more fertile source of sore-throat.* See *Fur*. Doubtless many cases of simple sore-throat may be well managed domestically; but the contingencies of erysipelatous or croupy sore-throat, or of quinsy, which *may* suffocate, must not be lost sight of. The attendance of a medical man gives the only chance for life in such cases.

Refer to—*Croup—Throat, &c.*

SOUND.—A surgical instrument for exploring cavities within the body.

SOUND.—See *Deafness.*

SOUND.—See *Auscultation.*

SOUP.—See *Broth—Beef, &c.*

SPASM—is painful contraction of the involuntary muscular fibres, in contradistinction to cramp.—See *Cramp.* There is cramp in the legs, spasm in the stomach or bowels, in the latter case constituting colic. Spasm of the stomach, owing to the presence of indigestible substances, is not unfrequent. It is characterized by sudden agonizing pain in the region of the stomach, which, like other spasmodic pains, is relieved by pressure; there may be attempts at vomiting, and perhaps eructation of wind. The severity of the pain, in this form of spasm, makes speedy relief important, and for this, the general remedies noticed under *Colic* should be resorted to; in addition, if the presence of irritating matters in the stomach is suspected, an emetic should be given at once, and after it has acted, or in place of it, if it is not given, an antacid, magnesia, or soda, or potash, in combination with a stimulant, sal volatile or brandy, and also opium. Five grains of rhubarb, five of alkali, a tea-spoonful of sal volatile, and from ten to fifteen or twenty drops of laudanum, will form a dose, which may be repeated every quarter or half-hour, or at longer intervals, as requisite. These measures may be followed out, and give great relief before a medical man can be procured, which he ought to be if the attack does not yield at once, for it is possible that other disorders may be mixed up with it. After the immediate attack has passed away, the digestive functions will require attention.—See *Indigestion.*

Spasm in the bowels has already been considered under article "Colic." Spasm of the heart is included under "Angina Pectoris." Spasm of the urinary passages may occur as the result of gravel or urinary irritation. In all cases of spasm, it should be remembered that heat is one of the best, and certainly is the safest remedy.

Refer to—*Colic—Cramp—Urine, &c.*

SPASMODIC DISEASES.—See *Lock-Jaw—St. Vitus' Dance, &c. &c.*

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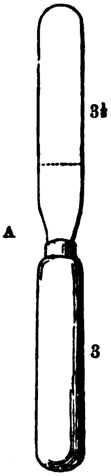
* Men who are liable to sore throat may often diminish or quite eradicate the tendency by allowing the beard to grow all round.

SPATHULA—fig. A—is a blunt flexible knife used by the apothecary, and in the various medicinal manipulations. It is usually made of iron, but bone spathulas are also used for substances* that act chemically on iron. The most convenient size of spathula for a domestic chest, is one with the blade about three and a-half inches, and the handle three inches in length.



SPECIFIC—is a term applied to a medicine which is known from experience to cure a particular disease or set of symptoms, the action by which it does so being unexplained. Thus, quinine is specific in ague and other periodic diseases—specific, at least, within certain limits. That is, it is generally successful, though not always so. This applies to other specifics so called.

SPECTACLES.—See *Vision.*

SPECULUM.-A surgical mirror, adapted to assist the examination of internal parts of the body.*

SPEECH.—Distinctness of speech, or articulation, is so intimately connected with the full command and free movement of the tongue, that indistinctness is often a valuable leading symptom in the investigation of disease, especially of a nervous character. The "thick" articulation of the drunkard is an instance of the affection of the tongue from nervous disorder; the same thing occurs in paralysis and other diseases of the brain; in some cases, the articulation of particular letters being interfered with, such as "d" being substituted for "l."

Stammering in the speech cannot be said to be a disease, being rather a functional disorder; this is evident from the fact, that, under certain circumstances, a habitual stammerer does not stammer, and that cases have occurred in which most inveterate stammering has been completely cured—as history tells us in the case of Demosthenes—by the exertion of the will. Moreover, stammering is often caused either by imitation in children, or by nervousness in both children and adults. This nervousness is often the result of debility
weak constitution—a fact which al
be lost sight of, for if such be the ca
means of strengthening should be
See *Children, &c.* At the same time,
general health is sustained, mucl
done by checking children, and mak
speak at all times slowly. Much p
children, and much perseverance
command in adults, is required in t
to overcome the defect in question,
is the encouragement that it has
fected. When it can be done, a chi
be placed under the care of a pers
enced in the moral and intellectua
of children thus afflicted. Surgical o
on the tonsils and uvula have been
even by high authorities, and
largely for the cure of stammering,
have never met with the cordial s
the profession. Articulation is s
indistinct from the tongue being
that is, too much confined in its
by its natural bridle or "frænu
Tongue. When this is discovere
life it is very easily rectified.—See

SPERMACETI—is a species of
oil found in the head of the sper
Its appearance is sufficiently well
It was formerly used internally, o
of its supposed healing proper
according to this idea the "s
draught" was a favourite lyin
remedy. Spermaceti is now use
an addition to ointments.—See *Oi*

†SPHINCTER MUSCLES—are
the office of which is to close the
round which their fibres run, us
circle.

SPINACH.—This well-known
is one of the most wholesome we
and less liable than most others to
The leaves of either the common
or of the mangel wurzel, when co
spinach, form a substitute in som
even superior to the former veget

SPICES.—See individual arti
namon—Pepper, &c.

SPINE—or SPINAL or VERTE
LUMN—is a chain of twenty-fo
called the "vertebræ"—see *Sk*
beautifully contrived and fitted
other, that while they permit the
tensive motion of the trunk of
they at the same time preserve it
at least—firm and erect, and guard
cord or marrow—see *Nerves*—a
but the most violent injury. T
cord, thus guarded, is inclosed in
canal, which is continued throug
tebral chain, from the head down
and into the "sacrum" bone of t

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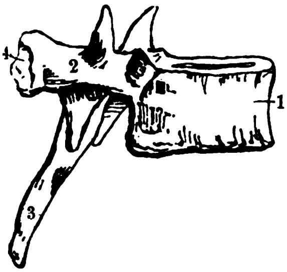
* The Laryngoscope for examining the larynx is one of the latest forms of speculum.—See L

† SPERMATORRHŒA.—Refer to Appendix.—Quacks.

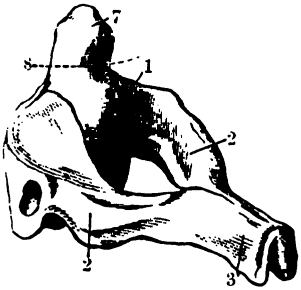
‡ In some places the leaves of the common Chenopodium Bonus-Henricus, or "Good King H cooked and used as spinach.

he twenty-four vertebræ are divided by natomists into seven "cervical" or neck ertebræ, twelve "dorsal" or back vertebræ, nd five "lumbar" or loin vertebræ; the ertebræ belonging to these divisions being istinguished by marks peculiar to each, hile at the same time all the bones have cer- in characters in common. All the vertebræ, xcept the single one next the head, have hat is called their body—fig. A, B, C, 1—on the bodies rests the main weight of the parts above them, they are also extensively subservient to the motions of the spine. The bodies form the inner portion of the spinal column.—See *Chest—Skeleton*. Attached to the body, one on each side, are "laminæ," or projections—fig. A, B, 2—which serve to inclose the canal of the spinal cord; from the junction of these laminæ proceeds what is called the "spine" of the vertebre.—Fig. A, B, 3. These "spinous processes" projecting backward, give the peculiar character of the spinal column, when examined in a living, and especially a thin person. In addition to the parts above named, there are what are called the "transverse processes." —Fig. B, C, 4. These processes are chiefly concerned in affording attachments to the muscles, and in the dorsal vertebre, in giving firmness and support to the ribs.—See ***Ribs***. There are various other distinctions common to the vertebre which it is unnecessary to enter into here. The bodies of the vertebre are separated from each other by what are called "inter-vertebral cartilages."—Fig. C, 5. These cartilages are endowed with remarkable elasticity, yielding with every motion of the body, and breaking the effect of the shocks, which must have been communicated to the brain with every step, had the spinal column been all bone. Moreover, the variations in thickness of this component of the spinal column, contribute greatly to mould its different curves.

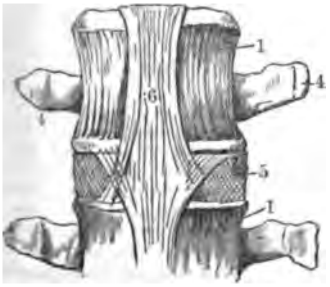
A



B



C



In addition to being fitted to one another in a most beautiful manner, the vertebræ are firmly braced together by a series of ligaments of various kinds, which permit, but yet restrain motion. One of these ligaments is shewn—fig. C, 6—which runs down the bodies of the vertebre externally; a similar ligament runs down the interior of the spinal canal, and there are others.—See *Ribs*—fig. B, 2.

The two upper cervical or neck vertebre which are more especially concerned in supporting the head, are peculiar. The uppermost one, named the "atlas," from its office, is little more than a ring of bone, with two lateral joint surfaces on which the head moves in the performance of bowing motions. The second vertebre, called the axis—fig. B—has, in addition to the ordinary body of a vertebre—1—a tooth-like process or projection—fig. B, 7—which, projecting upwards, rests within the bony ring of the first vertebre, and is kept in position by a strong "transverse" ligament, which, running across from one side of the ring of the first vertebre to the opposite, crosses the tooth-like process of the second vertebre, as at the dotted line—8. By this arrangement, as a moment's reflection will show, the side to side motion of the head is secured, which, in combination with the bowing motion exercised on the first or atlas vertebre, permits of that perfect capability of movement with which an all-wise Creator has endowed the noblest part of man. Should the above transverse ligament be broken by any chance, or by violence, as sometimes occurs in hanging, the tooth-like process, thus set at liberty, presses forward upon the spinal cord, and instantaneously extinguishes life. It is the danger of this occurrence which the author adverts to in the article on "Lifting Children."

The seventh or lowest cervical vertebre is remarkable for being more prominent than the others, and is by this easily recognizable in the living body. The dorsal vertebræ support the ribs; their spinous processes—fig. A, 3—overlap one another like the tiles of a house—see *Ribs*—fig. B—while the spines of the neck and loin vertebræ project outwards. The "lumbar" or loin vertebre—fig. C—are the strongest in the body; the lowest of them rests upon the sacrum bone—see *Pelvis*—and, indeed, this bone is evidently a series of vertebræ consolidated to fulfil the functions of their position.

The spinal column constructed as above described is not straight, but has various natural curves; the principal of these is one outwards, which increases the capacity of the chest, and one inwards at the small of the back, which assists in maintaining the equilibrium of the body, and also in supporting the contents of the abdomen.—See *Chest*, fig. A. The canal which runs through the entire spine is continuous with the cavity of the skull by the opening in the base of the head—see *Skull*—and the membranes and nerve substance of the spinal cord, are, through the above opening, continuous with the brain and its membranes.—See *Nervous System*. The equilibrium of the spine, and therefore of the body generally, and the motions of the trunk, are effected by means of the various muscles attached in a longitudinal direction, chiefly to the posterior portions of the vertebræ.

DISEASES AND INJURIES OF THE SPINE.—The spine is liable to be the seat of a peculiar malformation at birth. This consists in the deficiency of the posterior portions of a certain number of the vertebræ, generally those of the loins, by which the membranes lining the interior of the spinal canal are left uncovered, except by the skin, both membranes and skin being distended into a livid-looking semi-transparent bag containing fluid. This peculiar malformation generally ends fatally, but not so invariably as to justify the child being left to its fate without an attempt to save it. This attempt can only be made by the surgeon, and will probably consist of cautious evacuations, at intervals, of the fluid contained in the bag, pressure being at the same time employed. Natural cure is said to have occurred in consequence of the fluid being allowed to escape through an ulcerated opening. Concussion of the spinal cord is not unfrequent, as a consequence of heavy falls on the feet, especially on the heels, or of direct blows on the back. The usual symptoms are depression of the system, with loss of sensation and power of motion of the lower portions of the body, which either passes off in the course of a few days, or remains permanently, perhaps passing into disease. Occasionally, very acute pain in the lower limbs comes on. In cases of concussion of the spinal cord, the power of evacuating the urine is sometimes lost, in which case the use of the catheter will have to be resorted to by the surgeon, whose speedy presence is requisite in every case of the accident in question. The best thing that can be done until aid is procured, is to place the patient as carefully as possible in the most easy position, and to keep him perfectly quiet. Any symptoms of inflammation following such an injury will require the usual treatment of leeches, fomentations, poultices, &c., the bowels being acted on by purgatives given by the mouth or in clysters, &c. In patients confined to bed after injuries of the spine, bed-sores are particularly to be guarded against; moreover, if sensation be much impaired, and *the case be neglected*, a sore may make considerable progress before it is discovered. Even if a case of injury of the spine does well, it is apt to be tedious, and the lost powers are very slowly regained. Friction repeated frequently, warm saline bathing, the douche, and gentle exercise of the limbs, are the most beneficial remedies. Displacement of vertebræ can rarely take place without extreme violence, and, even then, fracture generally accompanies the accident, except in the case of the upper vertebræ of the neck, alluded to in the last article. Displacement is accompanied to a greater or less extent by injury to the spinal cord, and consequently by paralysis of the parts below: if the injury is high up, instant, or at least speedy death being the result. In the event of an individual surviving, for a longer or shorter time, such an accident, all that others can do, till proper assistance is procured, will be to place the person in an easy posture, to administer stimuli with due caution, and to endeavour to preserve the proper heat of the paralysed parts, by friction and warm applications, bearing in mind the cautions given under article "Paralysis."

The spine is liable to various diseases, such as inflammation, apoplexy of the cord, softening, &c., the latter being not an unfrequent concomitant of epilepsy. Pain in the part, and disorders of the functions of sensation and motion, and convulsive twitching, are the most usual symptoms. It is not possible, that beyond temporary soothing measures, such as bran poultices, &c., unprofessional interference in such cases can be usefully employed. In cases of severe pain, however, opiates may be cautiously given till a medical man sees the case. In some forms of fever, and of lock-jaw, the spine is affected. Functional disorder, and what is called "irritation of the spine," are extremely common, especially in females, and are often at the root of the obstinate palpitations, and many of the nervous and hysterical derangements of the sex. In such cases, if the back be carefully examined, a tender spot may generally be discovered somewhere in the upper part of the spine, and often, when there is more than one tender spot, lower down. In these situations, the spine may be simply tender on pressure, or pressure may cause pain to radiate as it were from the point, round the body, or, in severe cases, may bring on hysterical symptoms at once, and fainting. Such cases are frequently overlooked. They are generally connected with debility of constitution, and require the well directed treatment of a medical attendant. The use of the tepid or cold douche down the spine, followed by friction with a rough towel or flesh-brush, does much to relieve in such cases, often more than counter-irritation. The general health requires attention, and, generally, tonics, quinine and iron, are called for. Exercise must be regular, but not carried to fatigue, which is injurious. In severe cases repeated *small* blisters are sometimes useful.

Curvature of the spine is far from being uncommon; it is of three varieties,—the angular curvature, lateral curvature, and curvature backwards. The first of these, angular curvature, is caused by disease—caries—of the bodies of some of the vertebræ themselves, which, permitting the bone to yield under the weight of the body, causes angular distortion at the seat of the affection. This disease, being sometimes at first accompanied with little pain, may be overlooked. It usually occurs in children, and in young people of delicate, and especially of scrofulous, constitution. Matter forms in connexion with the diseased bone, and gravitating downwards, shews itself as abscess lower down, perhaps in the loins or groin. The first symptoms of this disease may be the child wincing or crying out from sudden pain in some movement of the spine. If allowed to go on unchecked, very great deformity ensues, and the constitution is at length worn out. The great essential of treatment in this form of curvature, is rest, in such a position as will take the pressure off the diseased bones, this being best effected by the use of the inclined plane, the patient lying either on the back or face; but this, and the local and constitutional treatment, can only be properly conducted under medical superintendence.

Lateral curvature is not, like the above, the result of disease, but is the *mechanical* effect of repeated and continual malposition of the body. It is the form of spinal curvature from which nurse-girls who are put at too early an age to carry heavy children frequently suffer, it is also the affection met with among the pupils of injudiciously conducted female schools. It of course is most liable to occur in weakly subjects, but may take place in any young person, who is compelled, habitually, to maintain the body, even without additional weight, in one position for any length of time—see *Education*—and, especially, if compelled to support a weight on, or to make undue exertion with, any one side of the body. The first thing, generally, which attracts attention in this form of curvature, is the appearance of the shoulder, which assumes the prominence popularly known as "growing out;" that is, it evidences the displacement from its symetrical position, which it, in common with the ribs, experiences from the curvature of the spine. If the incipient curvature be neglected, as a matter of necessity, for the support of the head in an upright posture, a second curvature takes place in a direction opposite to the first, giving the spine the curves laterally in the form indicated —fig. A.—and distorting the body as represented. The causes of the above common deformity which have been pointed out, naturally indicate, that the first step towards cure must be the removal of the producing cause. If a weight has been carried, if exertion made, if injudicious school management, such as too long continued sitting or standing upright, has occasioned the deformity, it must be put a stop to at once. Such a course, with general tonic measures, rest of the body for a considerable portion of the day, equal exercise of the muscles connected with the upper extremities, and cold or tepid salt douche, with regular general exercise, will probably remove the tendency

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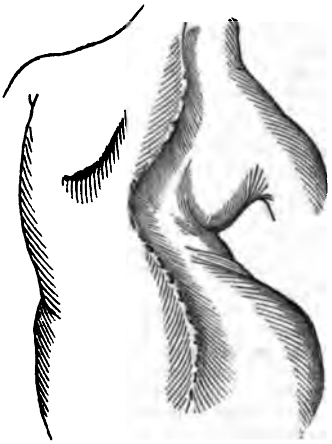

to curvature in incipient cases. If, however, deformity has made any progress, other and probably, mechanical, means will be required for its removal, which can only be properly employed under medical direction.

The curvature of the spine from before backwards, occurs in weakly children, and constitutes the "stoop," or round-shoulder of the young. It is usually connected with general debility of constitution, which requires to be corrected by the ordinary means, the local deformity being relieved by the horizontal posture, by the moderate use of a "back-board" when the patient is of sufficient age, and by the douche, friction, &c.

Refer to—*Education, &c.*

SPIRITS, LOW.—See *Hypochondriasis—Indigestion.*

SPIRITS.—See *Stimulants—Brandy—Gin, &c.*

SPITTING OF BLOOD.—See *Hemorrhage—Lungs, &c.*

SPLEEN—or Milt—is a body of variable size, which is situated in the left hypochondriac region—see *Abdomen.* It is somewhat of a spongy texture, and is capable of containing blood so largely, that its office in the economy—which even now is not yet clearly made out—has been supposed to be that of a blood reservoir. Recent investigations point to its close connexion with the condition of the blood corpuscles.[*] The spleen is liable to become greatly enlarged in cases of continued ague—see *Ague.*

SPLINT.—See *Fractures.*[†]

SPONGE.—This well known production of the animal kingdom is chiefly brought from Turkey. The great uses of sponge in medical, and especially surgical matters, need not be dwelt on here; suffice it to remark, that sponges selected for such purposes should be free from the gritty particles which are often present in considerable quantity in inferior sponges. Burnt sponge was formerly the best remedy in cases of "bronchocele;" it is now known that its power of removing that disease depended on the presence of iodine.—See *Iodine—Bronchocele, &c.*

SPONGIO PILINE.—See *Poultice.*

SPORADIC DISEASES. — Diseases which show themselves in individual cases, in contradistinction to epidemic and contagious diseases.

SPRAIN—or Strain.—This painful injury is the result of forcible overstretching of the ligaments—see *Ligaments*—of a joint. In their natural state, the ligaments are but slightly sensitive, but when overstretched they are acutely so; there are few, perhaps, who have not, in a greater or less degree, experienced the sickening pain of a sprained wrist or ancle, the two joints which are most frequently the seat of the injury; their liability arising from their immobility, compared with such a joint as the shoulder, which is more liable to dislocation. A sprain is attended with pain, which, perhaps, causes faintness or vomiting; when this passes off, it is found that the joint cannot be employed as usual, every attempt renewing the suffering; shortly, swelling comes on, followed by the heat and pain of inflammation. An injury of this kind, it need hardly be said, should not be slighted; for should it be so, in some constitutions, it may lay the foundation of irremediable disease. Few, perhaps, have either the power or the will to neglect a strain at first, but very many are inclined to rebel against the rest and confinement necessary for its perfect cure, which ought to be effected before the joint is brought into active use. When a sprain has occurred, complete rest is the first necessity, accompanied by the soothing influences of fomentation and poultice, *well and thoroughly made use of*, from the very first; the early employment of the remedies doing much to alleviate the suffering. When, in the course of a few hours, inflammatory signs appear, six, eight, or ten leeches may be applied around the joint with advantage, and if the patient is of at all full habit, a few doses of purgative medicine should be given. To allay the pain, six or eight grains of Dover's powder, with a couple of grains of calomel, may be given at night, and followed in the morning by a Seidlitz powder, or some other purgative. After the joint has been soothed for some days by rest, with poultices, and fomentations, it will be advisable to change these applications for a bandage, which is to be kept wet with tepid water, *lightly applied* to the injured part, which, if agreeable to the feelings of the patient, may be enveloped in some warm material. In such injuries, regulation of the temperature, the employment of heat or cold in the treatment, is always best ruled by the feelings of the patient. In some few cases, even from the beginning, cold lotions such as the lead or the spirit lotion, &c., are found most soothing, and then it is right to use them, at least as long as they prove agreeable; but more frequently warmth, with moisture, is preferred and preferable. The bandage at first applied lightly, may gradually be used to exert more pressure, and to give more support, and the tepid applications may be exchanged for cold ones. As soon as it can be borne, friction night and morning, with the soap liniment or soap and opium liniment, will be found agreeable and serviceable. Lastly, instead of the morning rubbing, the cold-water douche—the pump is a common and very good form* must be used to give strength and tone. For the latter purpose salt-water or sea-water is perhaps preferable to fresh: which ever is employed, it ought to be continued till the joint aches slightly, the after-reaction being promoted by rubbing well with a towel. It is repeated, too great caution cannot be used in bringing a joint, which has been sprained, into use, and especially if the subject of the accident is at all of a scrofulous habit. Although the treatment of a sprain is perhaps neither difficult nor complicated, the discrimination of the accident in the first instance is sometimes by no means easy even to a surgeon; for when much swelling has supervened, and when every slight movement is torture to a patient, there is much difficulty in coming to a decision respecting the exact nature of the injury, and in deciding whether or not the sprain is complicated with more or less fracture or displacement. On this account it is desirable that these accidents should be early examined by a medical man; for it is too late, after weeks of poulticing, and bandaging, and rubbing, to find out that the so-called sprain is a fracture or dislocation. The swelling of a sprain is sometimes colourless, but more generally it is coloured from the effusion of blood under the skin; as this is gradually absorbed in the process of cure, the variation from "black and blue" to greenish and to yellow, &c. takes place

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[*] We are indebted to Professor Virchow, of Berlin, for the discovery of a condition of the blood connected with enlargement of the spleen. A drop of blood taken from the point of the finger by a needle, and place under the microscope, at once reveals the morbid condition.

[†] Swing Splints.—See Appendix.

SPRUCE-BEER—is a drink made from molasses or sugar fermented in water, and qualified by the extract from the spruce-fir: the saccharine, in fact, answering to the malt, and the spruce extract to the hop of common beer. Spruce-beer, when brisk in bottle, is not unpleasant, and is highly esteemed among some of the northern nations as a preventive of scurvy and other diseases. It probably owes any active properties to the presence of turpentine.

SQUILL.—This drug is the produce of the *Scilla* or *Squilla maritima;* the bulb, which weighs generally from one to three or four pounds, being the part used. It is chiefly brought from the shores of the Mediterranean.

Squill is met with in the shops in the form of yellowish-white semi-transparent pieces, made by slicing the bulb, and then drying the slices. While perfectly dry, squill should be brittle, but from the readiness with which it attracts moisture, it is very often met with not quite dry and rather tough.

Squill is popularly known, and used, as an expectorant medicine, and when properly employed it is invaluable; too often it is improperly given, and does mischief. It also acts as a diuretic, and may cause sickness or purging, in large doses. As an expectorant, squill is irritant and stimulant; it is therefore inadmissible when anything like inflammatory action or active irritation is going on in the bronchi or air-passages; in such cases, it aggravates cough, instead of relieving. As an expectorant, squill is most serviceable in cases of chronic bronchitis, especially in the aged, but indeed in all cases when the phlegm or mucus is tough, viscid, and separates with difficulty from the air-passages, causing long and severe paroxysms of cough before it can be expelled. Squill is most advantageously combined with opium, the latter drug does not seem to impair its expectorant properties, whilst it modifies its tendency to irritate. From one to two drachms of paregoric, with twenty drops of tincture of squills in a wine-glassful of water, forms a most excellent cough draught for night; to which, if there is much debility, there may be added one drachm of sal volatile. For diuretic purposes, squill is most generally given in powder, in from one to three-grain doses, and usually in combination. It is not adapted for domestic use with this view.

Squill-vinegar is a frequently used preparation, made by macerating two and a-half ounces of sliced squill-root in a pint of distilled vinegar for a week. After straining and squeezing, an ounce and a-half of proof spirit is added to ensure keeping, and the whole is filtered. The syrup of squills is made by dissolving three and a-half pounds of refined sugar in a pint of squill-vinegar by the aid of gentle heat. Its dose is from one to two drachms. Squill in powder is better purchased ready prepared; it requires to be very carefully secured in a well-stopped bottle, and to be kept in a dry place, otherwise it quickly becomes useless from damp. The common squill pill is often used, but in many cases irritates and increases cough instead of relieving. The author has found the expectorant pill, for which a prescription is given under article "Pill," much more generally useful. In dropsy of the abdomen, a liniment composed of two parts of soap-liniment, and one part of tincture of squills, rubbed into the skin to the extent of two drachms, twice or thrice in the twenty-four hours, is said to be serviceable.

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* The hydropults, now so universally used, may be employed with great effect to administer a cold douche.

Refer to—*Expectorants.*

SQUINT.—This unpleasant defect, when permanent, arises from contraction or permanent shortening of one of the "straight" muscles of the eye-ball.—See *Eye.* The squint may be congenital, or, at least, may appear very shortly after birth; in many instances, however, it dates from teething, especially if that phase of infant life has been accompanied with any tendency to convulsions; it may also arise from irritation in the intestines, caused either by worms or by indigestible food. Indeed, in some children, the first and invariable symptom of their becoming disordered is the occurrence of squinting. In some cases, squinting appears simply to be the result of bad habits. Squinting comes on in some of the stages, especially the later ones, of disease of the brain, such as acute water in the head.

If squinting in a child is suspected to arise from irritation in the stomach or bowels, or from any cause, such as that of teething, the primary occasion of the disorder is of course to be removed as far as possible: when no such origin is assignable, and when the defect, whether temporary or permanent, appears to be the result of habit, the best corrective, probably, is to cover over the unaffected eye for a certain period every day, so that the child in using the other shall be compelled by an exertion, if it possibly can be done, to direct it into the proper axis of vision, from which, in the case of a squint, it is thrown out. When squinting remains as a permanent defect, the only effectual remedy is the operation which some years ago was so much in vogue, and so indiscriminately performed. This operation consists simply in cutting through the muscle, the contracted condition of which occasions the squint. No sooner is it perfectly divided, than, in a successful case, the other muscles at once draw the eye to, and retain it in, the right direction—the divided muscle in the course of a short time contracting adhesion to the eye-ball further back than its original attachment, and so restoring and maintaining the balance of action. The operation is in itself a trifling one, but is not successful in all cases: in some it has occurred, that the muscle antagonistic to the one divided in the operation, acts too strongly, drawing the eye as much in one direction as it had before inclined to the other; other cases, although apparently cured for a time, are again apt to relapse to their former condition. Still, even with these drawbacks, the operation relieves many from an unsightly and annoying defect, and as it always requires the aid of a surgeon for its performance, he must decide as to the probability of its affording prospect of permanent cure. Squinting is generally inward towards the nose, being caused by contraction of the internal straight muscle; it may, however, be either outward or upward, if the corresponding muscles are affected.

Refer to—*Vision.*

STAB.—See *Wounds.*

STAMMERING.—See *Speech.*

STARCH.—See *Fecula.*

STARVATION.—Deprivation of food, either total or partial. Under article "Food" it has been pointed out, that nourishment is or ought to have reference in its composition to two distinct ends—the nourishment of the bodily tissues, and the maintenance of animal temperature; moreover, in the above and other articles—"Debility," &c.—it has been shown, that to the latter—the support of the heat of the body—all other considerations must give way, *for that,* fuel must be found, and if it be not furnished by periodical supplies of food, it will be taken from the component tissues of the body as long as these are capable of affording it; every inspiration of the starving man, imparts to his blood the oxygen which is to be hurried to the consumption of his wasted and momentarily wasting tissues, every expiration gives out the carbonic acid and vapour, the smoke of the furnace within, which, like a steamer at sea run short of coal, is forced to consume its internal framework, in the effort to carry the hull to the haven of safety: the animal temperature must be maintained, or the person dies; hour by hour, tissue after tissue is used up for this end—see *Animal Heat,* &c.

—and hour by hour the slow wasting of starvation goes on, till, either relief comes in the shape of nourishment, or till the last available tissues have been exhausted, and the person dies, chiefly of cold. The fat, in the above process, goes first—its oxygen and hydrogen furnish the readiest fuel, the most easily burned material; the muscles next yield and become soft and wasted, the nervous system falls before the pressure of necessity, and with it mental power; delirium ensues, and the vital power of resisting the ordinary processes of decay is lost.

A little consideration of the above will show, that the process of starvation must be modified by various contingent circumstances, more particularly the condition of the body as regards fat, &c. This internal supply of fuel, so to speak—were the simple chemical changes incurred in maintaining heat only to be considered—would make the fattest man the best resistant to, and longest liver under, circumstances of starvation. This, however, will scarcely hold good; for there seems to be a power of endurance in the constitution—in the nervous system—of some, apparently a less susceptibility in the tissues to give way, that enables them to withstand a greater extent of privation than those who, according to the chemical theory alone, ought to last the longest. Again, external temperature influences greatly the effects of privation of food upon man. As shown under article "Cold" and others, a man exposed to low temperature requires food, not only more abundantly, but of a more nutrient character, to preserve him in health, than an individual surrounded by and breathing a warm atmosphere: it follows, therefore, that a man exposed to cold, breathing a cold air, and especially if ill-clad, will be much more quickly starved to death than under the reverse circumstances. The above observations, especially if taken in connexion with the articles referred to, must make it clear, that starvation is, in fact, the chemical union of the component particles of the tissues of the animal body, with the oxygen of the atmosphere carried through that body by the blood, and that the process is accelerated by whatever increases the amount of oxygen taken in by the lungs, whether it be cold, which gives a greater amount of oxygen in a given volume of the atmosphere, or exercise, which increases the rapidity of the respiratory process, and at the same time the consumption of the muscular particles in the performance of motion.—See *Motor Change.*

Happily, cases of starvation, from actual inability to procure food, are not frequent in this country; but medical men often witness an approach to a state of starvation in the progress of diseases, of fever especially, when patients lie for a great length of time without taking food. In such cases it occurs, that at last the patient is actually in danger of perishing from starvation, or rather from cold; the animal temperature begins to sink in consequence of the fuel tissues of the frame being all used up. Much, indeed, may be done to ward off this condition by the employment of strong broths, and of gelatinous materials, which, by entering the blood, furnish materials for heating, and so protect the tissues; but, after a certain point, these are insufficient, and nothing but alcohol will do; nothing but spirit, with its readily combustible carbon and hydrogen, will give a chance of life to "him who is ready to perish" from the starvation of disease.

Starvation has to be viewed as it takes place under total deprivation of food, and as it occurs under an inadequate supply. In the first of these, "there is pain at the stomach, relieved by pressure, the countenance is pale and cadaverous, the eyes wild and glistening, the breath hot, the mouth parched and dry, and the strength is prostrated. After a time the body exhales a fœtid odour, the mucous membranes at the outlets inflame, and life closes in delirium or convulsions."*

In that gradual starvation produced by deficiency of food, the symptoms seem to be chiefly referable to depression of the nervous system, both the ordinary sensations and mental powers being in some respects blunted, although at the same time nervous irritability is present, and perhaps mental disorder. Dr. B. Holland, who has written on the subject, thus describes the condition resulting from continued deficiency of food: "The state is indicated by a sallow and dingy appearance of the skin, a soft and flabby feeling of the flesh, more or less emaciation, general debility, feebleness of the circulation, and swelling of the ankles. The stomach becomes disordered, the appetite defective, the digestion impaired. The individual feels languid and desponding, is soon fatigued, incapable of exertion, and has an irresistible disposition to fall asleep, from which he is apt to wake suddenly and in a fright. The body is easily chilled, breathlessness and palpitation are experienced after slight exertion, attacks of giddiness, noise in the ears, and transient blindness, are common, and there is a peculiar forlorn and dejected aspect of countenance which is very characteristic." The above symptoms in a severe form occur in those who are so unfortunately placed as actually to want bread; in a minor form they are met with in those who for some reason accustom themselves to take too little nourishment, either as regards quantity or quality.

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* Taylor's *Jurisprudence.*

When total deprivation of food has extended even to twenty-four hours—when partial deprivation has gone so far as to produce pain at the stomach, and marked debility—return to a proper supply of nourishing food must be very gradual; the stomach and its sources of nervous stimulation partake of the general depression, and are no more fit for much exertion than the rest of the body; consequently, food must be given in small quantity, and in such a form as will most easily enter the circulation, such as good broths along with a small proportion of alcoholic stimulant, very carefully given, and warmed. When partial starvation or continued deficiency of food has been in operation for some time, it lays the individual open to the attacks of epidemic and endemic disease, and, indeed, seems to be the exciting cause of disease, as observed in the "Irish fever" which followed the famine.

STAYS.—See *Education.*

STEAM.—See *Heat — Inhalation—Poultice, &c.*

STEEL.—See *Iron.*

STERNUM—the breast-bone to which the collar-bones and ribs are attached anteriorly.—See *Chest, Ribs, &c.* It consists of three separate pieces.

STERTOR—or STERTOROUS BREATHING—is very similar to snoring. It occurs in apoplexy, and on the approach of death from other diseases.

STETHOSCOPE.—See *Auscultation.*

STEWING—which is the slow cooking of food by heat which does not reach the boiling point, renders meat peculiarly digestible; and, moreover, as the juice of the meat, or gravy, is most usually eaten with the meat, the whole nutriment is preserved. Stewing may, of course, be rendered injurious to some invalids by the addition of much fatty matter, or by that of vegetables.

STICKING PLASTER — also called ADHESIVE or DIACHYLON PLASTER.—See *Dressing—Plaster, &c.*

STIFF-JOINT.—See *Anchylosis.*

STILL-BORN. — See *Child-bed — Children, &c.*

STIMULANTS, GENERAL.—See *Excitement* and *Excitants.*

STIMULANTS, ALCOHOLIC.—TEMPERANCE AND TOTAL ABSTINENCE—INTEMPERANCE.

Alcoholic stimulants are classed as Fermented and Distilled. The principal Fermented liquors in use in this country are grape wines—domestic or home-made wines—liquors from the fermented juice of the apple or pear, cider and perry; and malt liquors from various grains, principally barley. To these might be added many more made and used among different nations according to the materials within their reach. Distilled liquors are not less numerous than the fermented; for man in every quarter of the globe has taxed his ingenuity, and generally with success, to find the means for their manufacture. The distilled liquors most commonly in use in Britain, are brandy, whisky, gin, and rum, or preparations from these; but, like the fermented liquors, many other alcoholic products of distillation are used in different countries, according as their natural products offer facilities for their formation. Distilled liquors contain a much larger proportion of alcohol than those which are simply fermented; indeed, alcohol and water make up their constitution, the peculiar flavour of each depending chiefly on the essential oils, or ethers, derived from the materials from which they are distilled. As the special characters of the various alcoholic liquors in use are entered into under their separate articles, the following observations are directed to the action of alcoholic stimulants, *generally*, upon man, and to their employment by him—their "use and abuse." Pure alcohol itself—see *Alcohol*—is ranked among the narcotico-acrid poisons. If a large quantity of strong spirit, or of alcohol, be quickly taken into the stomach, it may cause immediate death; indeed, many deaths from this cause are on record, and are frequently noticed in the public prints, as the result of foolish attempts to drink a large amount of strong liquor in a given time. If, in such cases, death does not immediately ensue, total insensibility generally supervenes, lasting for a longer or shorter time, either terminating in recovery, or passing into apoplectic stupor. In these cases of poisoning, the alcohol undoubtedly acts in the first instance by giving a shock to the nervous system through the stomach, similar to that which is produced by a blow on the pit of the stomach, or by a draught of cold water taken by a person in a state of heat and exhaustion. And, secondly, it acts upon the system generally, and especially upon the brain, in consequence of its absorption into the circulation. When this absorption occurs, it produces the phenomena observed in aggravated intoxication. To the article

"Intoxication" the reader is referred for further information. There can be no question that in the form above stated, of concentrated or of pure alcohol, this agent acts as a poison; but to deduce from this, as is frequently done, the assumption, that under all forms, and in any dilutions or combinations, alcohol is a poison, is so illogical that it scarce deserves refutation.

The effect of a moderate quantity of diluted spirit, or of wine or malt liquor, is very different from that of poisonous irritant doses of alcohol—as different as the scorching flame is from gentle heat. When a moderate quantity of diluted alcoholic fluid, such as wine or malt liquor, is swallowed by a person in health, there generally ensues a feeling of warmth in and around the stomach, which is gradually diffused over the whole body, and is accompanied with slight increase of muscular and nervous energy, the functions generally being more actively performed, and the mental power increased. Such may be called the salutary effects of a moderate quantity of the stimulant. If the bounds of moderation be passed, the stimulation is increased, the pulse quickened, the cheek flushed, and the mind excited in excess: if the quantity of stimulant is still further increased, "a degree of torpor is induced, both mental and bodily; perception is blunted, there is a general languor, giddiness, and obscurity of vision, incoherence of ideas, and incapability of exercising volition; the person is "drunk," and either sinks into a state of somnolence—half sleep, half stupor—or, by becoming sick and vomiting, recovers his senses quickly, sometimes at once. The amount of stimulation caused by alcoholic fluids, varies, of course, according to the strength of the dose, but also in some degree according to the habits of the individual; for there is no question that those who habitually drink strong wines or spirits, derive little if any stimulation from the weaker alcoholic drinks; moreover, some conditions of the system modify greatly the stimulant power of alcohol. In spasm, in fainting, in depressed states of the system, from fever or other such causes, persons often take with scarcely perceptible effect, doses of wine or spirit, which at other times would put them in a state of intense intoxication. Although, however, habit enables individuals to consume alcoholic drinks in greater quantity, and of greater strength, it by no means follows that this is done with impunity: if excess is habitually indulged in, the mucous membrane of the stomach becomes diseased, as the effect of a continued low state of inflammation, and even the other coats of the organ undergo changes of structure and indurations, which occasionally degenerate into cancer; at the same time the muscular and nervous systems, and the secreting organs generally, especially the liver and kidneys, are apt to suffer seriously.

There can be no doubt that most of the effects of alcoholic excitement, intoxication and stupefaction, depend upon absorption of the fluid into the blood, this having been found to take place very rapidly; that is to say, the alcohol passes as alcohol into the blood, and circulates as alcohol in the vital fluid, till it is got rid of by the usual processes of chemical change and of excretion. During this circulation, the most evident effects of alcohol are exerted in the nervous system; nor can this be matter of surprise, considering that after death from drinking spirit—gin—largely, there has been found within the brain "a quantity of limpid fluid distinctly impregnated with gin, both to the sense of smell and taste, and even to the test of inflammability." Moreover, there appears to be some special relation existing between the nerve tissues and alcohol.

With regard to the effect of alcohol upon the blood, it is unnecessary here to detail the various observations which have been made. One thing, however, appears to be well confirmed, which is, that the effect of intermixture of alcohol tends to keep up a venous condition—see *Aëration—Blood*—of the circulating fluid for a considerable time. According to Dr. Prout, after taking alcohol, the excretion of carbonic acid from the lungs is at *first* diminished; languor, yawning, and drowsiness being the consequence. There can be no doubt that the above effect of alcohol is in great measure owing to the elements of the spirit combining with oxygen in the body, and that its carbon and hydrogen are given off ultimately as carbonic acid and water. "The oxygen which has accomplished this change must have been taken from the arterial blood; for we know of no channel, save the circulation of the blood, by which oxygen can penetrate into the interior of the body." "The oxygen thus abstracted from the arterial blood to combine with the elements of alcohol, would, under other circumstances, have combined with the atoms of the muscular and other tissues, giving rise to development of muscular force, consequently, in this way, muscular power is rather diminished; there is languor. This statement may seem at variance with a former one, that alcoholic stimulants give rise to increased muscular energy Both statements are true, it is circumstances only which alter the effects. This is proved by practical experience, thus:—If an individual in good health, making active exertion in the open air, especially if it be cold, or if he be perspiring freely in warm air, consumes a moderate quantity of alcoholic fluid, he experiences the excitant effect; that is to say, the special stimulation of the alcohol upon the nervous system is experienced; but the activity of both the respiratory and circulating systems, and the consequent increased supply of oxygen throughout the body generally, counteract the chemical effect of the spirit elements on the blood, they do not permit the venous state above alluded to to be formed. On the other hand, if a person keeping quiet in the house, especially if the air be warm and ventilation deficient, takes but a small proportion of alcoholic fluid, how quickly does he become languid, sleepy, and unfit for exertion, either mental or bodily. In this case, even without alcohol, the circumstances were such as to favour carbonic accumulation in the blood, and with it muscular inactivity and mental hebetude; it is, therefore, much more likely that these symptoms will occur when the alcoholic influence is added. A clear understanding of the foregoing remarks will explain much of the usual effects of alcoholic fluid, observed either in one's own person, or in that of others. It is only necessary to keep in mind, that the first effects are those of special excitement of the nervous system, giving increased activity through that system to every function of the living body; but that this special excitement is apt to be interfered with by the chemical effect exerted by the elements of the spirit on the blood as above described, more or less, according as circumstances facilitate or not the introduction of oxygen into the vital fluid, and its transmission throughout the frame. Here attention may be drawn, as it has in other articles in this work, to the importance of this substitution of the alcoholic elements for those of the bodily tissues in exhausted states of the frame, as in fever, &c.—see *Starvation*—the animal temperature being maintained by the artificial "alcoholic fuel," so to speak, when the ordinary tissues are exhausted.

The less palpable effects exerted by alcohol upon men who work out of doors, than upon those whose employment is of a more confining nature, probably influences in some degree the statistics of its consumption, and for this reason Dr. Guy states, "that men who work out of doors are more addicted to drinking than men who are employed within doors." If the palpable general effects are not so great in the former as in the latter, it, however, by no means holds good that excess may not give rise to an equal amount of local injury to the digestive and other organs.

The effect of alcoholic fluids upon the digestive organs and their functions, has been the subject of much discussion and observation. In the case of St. Martin,—see *Digestion*—Dr. Beaumont observed that even under the stimulation of ordinary food, but in greatly increased intensity if extra stimuli were taken, "the colour of the lining membrane of the stomach changed from a pale pink to a deep red." The actual effects of alcohol upon the digestive functions probably vary according to the amount and strength of the fluid taken, and upon the habits of the individual. That immoderate doses of strong wine or spirit interfere with digestion is, perhaps, correct; but that the moderate employment of alcoholic beverages with their meals, is requisite to enable many persons to digest their food properly, is perfectly certain, and in accordance with the experience of medical men generally.—See *Digestion*. The requirement may not, perhaps, be that of a person in the full vigour of health, and placed in healthy circumstances; it is, however, one which we find closely linked with the every-day life and constitution of a large number of persons in this civilized, artificial, community of Britain; such being the case, it is folly to ignore its existence.

At the same time, although the admissibility, and in many cases the necessity, of a moderate allowance of alcoholic beverage, is contended for as necessary to perfect digestion under the circumstances named, it ought never to be forgot that the immoderate use, the abuse of these stimuli exerts the most serious effects upon organs with which they come so immediately in contact, the effects, moreover, being aggravated rather by the concentration of the spirit in the fluid usually drank, than by its gross amount. Ardent spirits, drank regularly to excess, exemplify the baneful influence most strikingly;* the most usual consequences being, as already mentioned, a low degree of inflammation of the stomach, followed by thickening of its coats, and great impairment of its digestive power; and along with these, frequently, hemorrhage from the bowels. The close connexion of the liver with the stomach, both in situation, function, and vascular communication, renders it liable to be affected equally with the latter organ, and, in fact, the liver-affection of drunkards, the "gin-drinker's liver"—see *Liver*—is matter of popular information.

*** Recent statistics have afforded an overwhelming mass of evidence to prove that the distribution of ardent spirits in the army, unless as a medicine, is altogether unwise; as it is found that besides the bad effect, especially upon the young, in leading to immorality of all sorts, our soldiers are not enabled to bear heat or cold or fatigue so well as when an *appropriate diet alone* is given with some agreeable substitute for spirits.**

This affection, moreover, is liable to be increased by a warm climate, and a most remarkable diminution in the occurrence and fatality of liver complaints among the troops in India, has been proved, statistically, to follow the abridgment of the allowance of spirits. Again, disease of the kidneys is a frequent consequence of the abuse of alcoholic fluids, and with the kidneys the urinary organs are usually implicated. The lungs, the heart, the arterial system generally, are not exempt from the evil influence. Sir James Clark remarks, " that the abuse of spirituous liquors among the lower classes in this country, is productive of tuberculous disease — consumption — to an extent far beyond what is usually imagined," and that not only is the tainted constitution acquired by the individual, but that it is transmitted with great certainty to the offspring. Not only, however, is the physical effect transmitted, but the mental and moral taint are so likewise; too often there is an inborn love of intemperance, which, if indulged, adds immensely increased power to the physical evil—the drunken child of a drunken parent is generally much the shortest lived of the two. Moreover, the child of a drunkard is very apt to be deficient in intellect, and not improbably idiotic.

If the abuse of alcoholic liquors is injurious to the body, equally so is it to the manifestations and tendencies of the mind. Passing over the milder forms of excitement, we find, under the influence of excess, that faculty which keeps the will subordinate to the judgment weakened, or for the time destroyed; there is produced, in fact, a state of temporary insanity; and so close is the resemblance, that, as remarked by an esteemed writer,[*] there is simulated " the raving delirium, the maudlin sensibility and groundless apprehensions of the melancholic, the bloodthirstiness of the homicidal, the cunning desperation of the suicidal maniac; the prostration of the moral feelings; the inflation of the mind with delusions as to dignity, wealth and knowledge; and finally, in the last state of intoxication, may be noticed, the gradual disappearance of every manifestation of reason, until the vacant gaze and drivelling smile have for the moment stamped upon the countenance the fearful inanity of idiocy. Since, then, a single dose of an intoxicating substance possesses the power of temporarily disordering the intellect, perverting the moral sentiments, and even wholly suppressing the operations of the mind, it is not wonderful that the continued use of such agents should frequently induce permanent mental derangement. Continuance in that habit may occasion this effect either directly or indirectly. We possess no data by which to estimate its influence in predisposing to insanity; we can, however, readily conceive that it must be very considerable. It is found that the minds of persons who have once laboured under an attack of mania, are ever afterwards more liable to excitement, and less capable of preserving their equilibrium whilst exposed to disturbing influences, than those which have never deviated from a healthy state. We have seen that each fit of intoxication is, in fact, a temporary attack of insanity. We notice in every-day life how frequently the intellects of habitual drunkards become impaired, and knowing these things, we cannot avoid the conclusion, that an excessive use of intoxicating substances will in time so enfeeble the mind as to render it incapable of bearing ordinary sources of disturbance, and thus act as a powerful predisposing cause of insanity."

Dr. Joseph Williams gives the following table as the proportion of cases of insanity caused by the " abuse of spirits," admitted into various asylums :—

	Total admissions.	Proportion caused by intemperance.
Charenton . . .	855	134
Bicetre and Salpêtrière	2012	414
Bordeaux	156	20
Turin, 1830-31 . .	158	17
Turin, 1831-36 . .	390	76
Gard	209	4
United States . . .	551	146
Palermo	189	9
Caen	60	16
Dundee	14	4
M. Parchappe . .	167	46
M. Bottex . . .	288	54
	5049	940

Dr. Robinson has drawn up a table, showing the proportion which intemperance bears to other causes of insanity, as exhibited in the returns from ninety-eight asylums in England and Wales. From the table we find that intemperance constitutes the immediate cause of one-seventh of the cases contained in the English asylums. Dr. Robinson, however, considers the proportion estimated much below the real amount, which is marked by various contingent circumstances. Accordingly another table is given, drawn up from the returns of twenty-five asylums. From the second table we learn that one-fourth of the cases of insanity admitted are referred to intemperance alone, and to it, in conjunction with vice and sensuality, nearly one-third. It is further remarked, that many of those cases entered in the tables as unknown might be added to the list.

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[*] Dr. Robinson.

Were it needful, much additional evidence on this point might be adduced.

There is no doubt when habits of intemperance have reached a certain point, that the unfortunate victim becomes partly insane, at least so much as to become affected with the species of monomania to which the term dipsomania has been applied. Sir Alexander Morrison describes it as a morbid craving for drink, which generally occurs at intervals, in which persons are seized with an irresistible propensity to drink to excess, although conscious at the time of their misconduct, but are unable to control themselves. Change of scene, confinement, &c., effect a cure, but relapses are very likely to occur *

In the endeavour, however, to correct, either the state of dipsomania, or to reform a drinker, care must be taken that the brain be not affected, and mania or fatuity produced, by too sudden a withdrawal of the accustomed stimulus. Andral relates the case of a man who, being thrown into prison for theft, became, in the course of a fortnight, perfectly delirious, and was only restored to sanity by the physician allowing him a small proportion of brandy daily. The above might be regarded as a case of delirium tremens; but the boundary line between the latter disease and insanity is so little defined, that it is difficult to say where the one ends, or where the other begins.

It is under the temporary insane excitement, produced by abuse of alcoholic liquor, whether purposely or accidentally, that a large proportion of the petty, and many of the most fearful, crimes are perpetrated by man. M. Quetelet, in his chapter on the "Development of the propensity to crime," assigns to the excessive use of intoxicating drinks the increase of crimes against property and person in certain provinces of France. But we need not go out of Britain to find evidences of the effect of the insane excitement of drink in stimulating to crime; every newspaper, every prison report, tells the same tale; but perhaps the most conclusive evidence on this subject, indeed we need no other, is the collection of opinions expressed by many of our eminent judges on this head, who have publicly from the bench declared as their deliberate opinion, individually, that drinking alone gave origin to by far the largest proportion of crimes that came before them for trial—crimes from which the perpetrator would have shrunk, but from the short-lived insanity of intoxication.

In considering the effect of alcoholic stimuli upon the system, due attention must always be given to the form in which they are taken. It is certain, that ardent spirits —which it may be remarked should never be taken but as medicine—will exert a much more irritating effect upon the nervous system, both locally in the stomach and at large, than the fermented liquors. It is well ascertained, that a certain amount of wine exerts less intoxicating effect than the spirit in the same quantity of wine would do, were it separated by distillation and then diluted with water; and moreover, that "different wines, although containing the same absolute proportion of spirit, will be found to vary very considerably in their intoxicating powers."

There is no doubt that the lighter wines of the continent, those which contain no more spirit than is yielded by the simple fermentation of the grape juice, are quite the most wholesome, and that the action upon the system of those stronger wines, such as port and sherry, to which spirit has been added, must in some degree resemble the action of distilled or ardent spirits, at least it has been proved that spirit artificially added to a wine is not united with it in the same manner as the spirit formed in it by the natural process of fermentation, which does not yield above eight per cent. In considering the action of the various kinds of wine, however, the influence of habit must not be lost sight of; for many who are accustomed to the use of the strong, dry, wines, cannot change to the lighter and more acescent kinds, such as the Hocks, &c., without risk of inducing disordered digestion, a tendency to gravel, and other similar complaints, which, however, does not prevail among those who *regularly* make use of these wines. The brisk sparkling wines affect the nervous system so rapidly, considering their small amount of spirit, that their effects have been in part attributed to the carbonic acid rising in the stomach, and carrying with it a portion of the alcohol into more intimate contact with the nerves of that organ. Home-made wines are apt to disagree with many persons, in consequence of the amount of sugar they often contain, or from the presence of lactic and other acids. Many of the remarks on wines apply also to the malt liquors, to the articles on which the reader is referred further information.—See *Ale—Porter*. Attention has hitherto been confined to the actions of alcohol, and of its various preparations, on the system, without reference to external circumstances, and at the same time occasion has been taken to advert to the serious physical and mental evils which inevitably result from the abuse of the agent; it will now be pointed out under what external conditions and circumstances, and under what peculiar conditions of mind and body, the use of alcoholic stimulants is either serviceable or necessary.

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* See Appendix—Dipsomania.

If the question be asked, whether alcoholic liquors form a necessary part of the sustenance of *healthy* men generally, it must be answered certainly not; that they are not necessary is proved, not only by the history of many nations, both ancient and modern, but by the results of the total abstinence movement: numbers are well and active both in mind and body, who never touch an alcoholic fluid. But what is a rule for some, or even for many, is by no means universal, and the experience of medical men generally, including those whose names stand highest at the present time—and they, it is presumed, are the most proper judges of the case—goes to prove, that there are numbers under the present artificial positions and modes of life, in this country at least, who cannot eschew the use of alcoholic stimuli without the risk, or rather the certainty, of detriment to health. Probably, there are few medical men who cannot reckon among their patients—the author certainly can—individuals who have seriously injured themselves by the unadvised adoption of, and rigid adherence to total abstinence principles. In such cases, the nervous system, the digestive organs, and bodily and mental vigour, gradually become weakened, and there is often great depression of spirits. It may be said that persons who require alcoholic stimulants to maintain their digestive and other powers, are not in a proper healthy condition, and possibly they are not; but they are in the state of numbers, in this country at the present time—a state fostered by circumstances, by the debilitating effects of the deficient sanitary arrangements of our large cities, by the wear and tear of mental anxiety and overwork, by the struggle in the perpetual battle of life, in which most are engaged in the throng of competition; these influences and others, including perhaps deficient natural constitution, render the moderate employment of alcoholic stimulants absolutely requisite for the preservation of the energies on which their livelihood and usefulness depend.* The requirement may be artificial, but we cannot change the circumstances; at least, not quickly; and until they are changed, it is folly, and worse than folly, to refuse a beneficent provision. There can be no question, indeed it has been proved, that the depressing influence of deficient sanitary arrangements are among the most powerful incentives to intemperance amid the workmen of our large towns, who, unfortunately, instead of wholesome moderation, too often indulge in excesses, especially in the use of spirits, which entail upon them many diseases. Better is it, certainly, that a man should risk health, even if that should suffer by his becoming a total abstainer, rather than ruin both body and soul by intemperance; but better still, that he should be exposed to neither risk, by being placed beyond the influences of depression, and within the influence of those natural stimuli—see *Excitement*—which our Creator has made necessary to our healthful existence in this world.

There are accidental circumstances in which all may at times be placed, in which the question arises, whether the assistance of alcoholic stimulation may be had recourse to with benefit or not. Exhaustion by long exertion in extreme of heat is one of these—the skin acting powerfully, discharges immense quantities of fluid, which must be compensated for. As long as the energies remain unimpaired, the compensation should be made by unstimulating drinks; by these, the strength is in every way better preserved; but when the energies flag, if *exertion must still be made*, a small quantity of diluted alcoholic stimulant may be taken with advantage. Under continued exposure to the effects of intense cold, especially if symptoms of torpidity supervene, the use of *undiluted* spirit may save, and has saved, many a life. In such cases, however, the caution must not be forgot, that the spirit should not be had recourse to early, and not, if possible, till it is used to stimulate to the last effort to gain the place of safety. Other cases occur, in which persons are compelled by circumstances to make continued exertions, involving loss of the usual rest; in these, after a time, the moderate use of the stimulant is highly beneficial.

The necessity for the use of alcoholic stimuli, under the various external circumstances which tend to depress or exhaust the bodily powers, is of course immensely modified by the constitution, hereditary or acquired, of the individual. Some individuals there are, who from birth upwards are always below par, who have no power of endurance. Such persons, generally require stimulants habitually, to enable them to keep up to life's duties at all, still more do they do so when exposed to conditions of depression or exhaustion.

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* It is remarkable that many who at one period of life have been strenuous supporters of total abstinence, have, when age or infirmity overtook them, been forced to change their habits.

The above have been considered irrespective of those cases in which long habit has rendered the use of alcoholic stimulants an acquired necessity, especially if excess has debilitated the constitution. There are, undoubtedly, many individuals of strong constitution and nervous power, who can at once lay aside the use of these stimulants without inconvenience; but there are others who quickly become depressed. This is especially the case if other depressing effects, such as an accident and its necessary pains and confinement, are in operation. Such cases, in hospital practice, are very common; the continued allowance of the alcoholic stimulant is necessary, not only for the reparation of the accident, such as a fracture, but even for the continuance of the functions of life.

The question of the propriety and benefit of alcoholic stimulation in the treatment of certain phases of disease, is one which it is matter of surprise could ever be mooted in the face of the approval and enunciation of the highest authorities, past and present, in practical medicine—ignorance alone could ever have raised the doubt. As the use of alcoholic stimuli is noticed under the heads of the various diseases, it is unnecessary to enter upon its consideration again.

Few subjects, perhaps, included in the present work, are more important than that which has just been discussed, briefly of necessity, but much too briefly to do it justice. The evils of intemperance in Britain are so deplorable, that every man who wishes well to his kind or to his country, must earnestly desire to see them checked; and, when it is looked upon as a matter of *temporary benefit and expediency*, must regard the total abstinence movement as one fraught with immense benefit to numbers; at the same time, medical men, especially, are aware that its uncompromising dogmas are the source of evil as well as good; evil, not to individuals only, but to the community generally, by turning the attention from the great incentives to the abuse of alcoholic stimuli, the depressing influences to which all classes of the community are exposed, by deficient sanitary arrangements, by the exhausting effects of competition in the vocations of life, and by the great absence of provision for, and relish of, the harmless excitements. Excitement of some kind is necessary, and if men, uneducated, or partly educated, have not the natural stimuli of the light and air of heaven, and proper relaxation afforded them if they have no mental stimulus presented to them as a change after the physical toils of the day, no object of interest with which to fill the vacuity of the mind, and no attraction, save that of a squalid home, most surely will they, in numberless instances, when they can, seek the artificial stimulus of alcohol, and the comfortable fire and comparative cleanliness of the tap-room.

STINGS—of BEES, WASPS, HORNETS, &c. —are punctured, and at the same time poisoned wounds, the intense pain being caused by the acrid poisonous fluid, which is pressed through the tube of the sting at the moment it is inserted in the skin. The poison is contained in a bag at the base of the sting, and the latter is barbed on one side. After the first acute pain of a sting subsides, a severe tingling smarting remains, and the part begins to swell. The amount of swelling varies greatly in different persons; in some it is trifling, in others it is very great, and in a few individuals it extends over the entire body, whilst at the same time there is much sick faintness, &c., requiring the administration of sal volatile and other stimulants. If the sting has been inflicted about the throat, the swelling has been known to prove fatal. The domestic local applications to stings are very numerous. Oil is frequently applied, and gives relief; but alkaline preparations certainly appear to be most serviceable; the popular remedy of the "blue-bag" is probably useful for this reason; soda is also employed; but ammonia or hartshorn—the weaker solution—is the best form of alkaline application; it may be used alone or mingled with oil. However, before any remedy is used, care should be taken to ascertain that the sting does not remain in the wound, if it does, it must be extracted by tweezers or by squeezing. If the pain and swelling remain severe, the common lead lotion, or tepid poultice, will relieve.—See *Wound*, *poisoned.* *

STITCHES.—The transient pains whic all persons are apt to experience at tim are probably of a neuralgic character. stitch in the left side, such as occurs in co sequence of exertion, quick walking or ru ning, is ascribed to congestion of the splee it has also been attributed to affection of t diaphragm. It is relieved by pressure.—S *Side, Pain in.*

STOMACH.—The form and position this important organ have been sufficient indicated in articles "Alimentary Cana and "Abdomen:" to these the reader referred, and at the same time to arti "Digestion" for an account of the latt process. The stomach is made up of th different coats or layers, the outer one, being the "peritoneal" coat, which covers the contents of the abdomen generally.—See *Peritoneum*. The middle layer is the muscular coat, by which the churning and wavy motions of the stomach are performed during the process of digestion. The innermost layer is the mucous coat, which is continuous with the lining of the gullet and mouth upwards, and with that of the intestines downwards. In the stomach, the mucous coat is thrown into folds or wrinkles, called in anatomical language "rugæ," which extend longitudinally along the organ. When at rest, the lining membrane of the stomach is of a pale pink colour, but whenever its peculiar functions are called into exercise by the presence of food, it becomes much reddened by the increased determination of blood towards it.

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* Stings of the jelly fish—see Appendix.

The chief disorders to which the stomach is liable, have already been entered into under the head of "Indigestion;" and such affections as cancer, perforating ulcer, spasm, &c., have been sufficiently considered in the general articles on these subjects. Blows over the region of the stomach are often serious, and may be immediately fatal.—See *Blows—Shock, &c.*

GASTRITIS.—Inflammation of the stomach is not a common disease in its acute form, and when it does occur, is usually the result of irritant agents, such as strong spirit, poison, &c., applied directly to the stomach itself. Fever, thirst, severe pain at the pit of the stomach, increased by pressure or by the presence of food, vomiting, especially after food has been taken, hiccup, red tongue, and, shortly, extreme depression of the system, are the usual symptoms. Leeches and poultices to the pit of the stomach, cold, sometimes iced water, or barley or gum-water, to allay thirst, and clysters, either aperient or opiate, will be the most useful remedies; but the disease is so serious in its nature, and so rapid in its progress, that it should at once, if possible, be put under regular medical treatment.*

STOMACH-PUMP.—See *Pump*,

STONE.—See *Gall-stone—Urine, &c.*

STONE-FRUIT—generally speaking, is less digestible when eaten raw than the other descriptions of fruit; to healthy persons, however, when ripe, and consumed in moderation, it is not injurious.† Plums have acquired a character for causing disorder and diarrhœa, which they scarcely deserve. Undoubtedly, with some persons they disagree, and, indeed, with all, if they are eaten immoderately or in bad condition; but that they, or fruits generally, are the cause of the regular autumnal or British cholera, is a fallacy which has been established in the popular mind, in consequence of the season at which plums are ripe—the "plum season" being coincident with that at which people in this country, who have been exposed to the effects of the summer's heat, are most liable to that outbreak of accumulated bile which is known as bowel complaint, or English, or British, or summer cholera. The fallacy is principally mischievous, because it closes the eyes of people generally to the real causes of a disease, which, with more or less severity, so regularly makes its appearance in this country, and thus prevents their adopting those measures of precaution which would insure them against its attacks.

Refer to—*Biliary Disorder, &c.*

STONE POCK.—A name applied to hard pimples.

STOOLS.— The evacuations from the bowels, always afford important indications of the state of health; they are, therefore, generally watched by medical men in cases of illness, and as a general rule should be saved for their inspection.

In infancy, the discharges from the bowels are generally lighter coloured than they are as life advances, this, perhaps, being partly, but not altogether, due to the usual milk nourishment, which, even in adults, if taken largely, tends to give a lighter colour to the stools. In infancy, moreover, the appearance of the natural evacuations is liable to vary greatly in colour, and, especially when there is disorder, acidity, &c., to assume a green tinge, either as directly passed from the bowels, or soon after exposure to the air, even if the motion has, in the first instance, been of a yellow or orange hue. The nature of these green evacuations is scarcely satisfactorily explained; they generally, however, follow attacks of pain, with superabundant acid. As children get beyond infant life, the stools, particularly in those with light hair and complexion, are apt to become either entirely or partially of a clay-colour, evidently from deficiency of bile. In such cases, it is not uncommon for grey powder or calomel to be given, with a view of increasing the flow of bile, which these medicines certainly do, and for a few days the motions are improved in appearance; but only for a few days—they soon become as unhealthy looking as ever; the benefit derived from the mercurials was only fallacious, or worse, it was injury rather than benefit. The true cause of these clay-coloured stools, in most instances, is the inability of the blood to furnish an adequate supply of the healthy bile; consequently, to stimulate the liver to secrete an increased quantity under these circumstances, is to impoverish the blood. A course of iron tonics, with a good supply of animal food, and if need be, a little wine or malt liquor, is much more likely to bring the motions to the colour of health, permanently and beneficially. Not that an occasional dose of grey powder may not be useful, but it is not *the* remedy. In adult life, the stools become clay-coloured, or chalky, from a different cause or causes, the most usual being obstruction to the flow of bile.—See *Jaundice*—but also from deficient secretion consequent upon disease of the liver, such as occurs in drunkards. The stools may vary in consistence, being either too hard or too liquid; the former is the case in persons of costive habit, in whom the fæcal contents pass so slowly through the bowels, that their liquid components are too much absorbed.—See *Costiveness*. In the latter case, the too liquid condition of the motions is associated, generally, with tendency to diarrhœa.—See *Diarrhœa*. The form of the motions may, by its peculiarity, convey important information: thus, in an enlarged state of the "prostate" gland at the neck of the male bladder, they assume a flattened form, or they may be diminished in size by narrowing of the gut.—See *Stricture*. The general bulk of the stools must of course depend much upon the amount and quality of the food; inattention to this fact sometimes misleads. It is not uncommon for persons to imagine, that, so as the bowels are regularly moved once a day, they must be in a perfectly free state, forgetting, that though they may discharge a portion of their contents, they do not necessarily discharge all; and such is really the case; in old people especially, enormous accumulations of fæcal matter are apt to take place, whilst the person is under the impression, that because there is a daily stool, the bowels are periodically fully relieved. On the other hand, again, the popular impression seems to be that the bowels fulfil no other office than that of a passage for the food refuse. This fallacy has already been alluded to, under articles "Alimentary Canal," "Digestion," &c.

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* In chronic irritation of the stomach, "Schacht's solution of bismuth" is a new and valuable remedy.

† Few fruits are more wholesome or digestible than a thoroughly ripe green-gage plum.

Various articles of food, such as the seeds and skins of fruits, will, as mentioned above, affect the appearance of the stools, and medicines do so more especially; iron, in particular, forms an inky black with the colouring matter of the bile, and as persons are often unnecessarily alarmed at the appearance, when iron is prescribed, the circumstance should be made known. Rhubarb, senna, &c., in some degree, impart their colour to the stools. Mercurials modify them, causing an olive or deep-green appearance, which may be kept up for a length of time, if mercurials are too continuously given. Persons are thus deceived at times, and under the idea that the motions do not become healthy, go on purging with the mercurials, which are themselves the cause of the unhealthy appearance. Other purgatives may have the same effect in a lesser degree. In unhealthy states of the system, and especially in some febrile affections, the stools become much more offensive than usual. When such is the case, the bowels generally require purging. The stools may contain blood. If this comes from the stomach, or high up in the intestinal canal, it is usually black and pitchy in appearance, and often highly offensive; stools of this kind often occur after severe bleeding at the nose when the blood has been swallowed. The blood may be fresh and clotted, either dark or florid. —See *Piles*. In some cases, the stools contain large quantities of mucus, simple or gelatinous-looking, or they contain matter. In all such cases, the motions should be kept for inspection, and a medical man sent for as soon as may be. In Asiatic Cholera, and sometimes in its British simulator, the stools resemble thin gruel or "rice-water." Straining at stool may arise simply from costiveness, and therefore is probably habitual; it is, moreover, one of the chief evils of costiveness, for not only is it apt to induce rupture in the predisposed, but, in the aged, it may bring on head attacks. Straining, or, as it is called medically, "tenesmus," occurs as a consequence of an inflamed and swollen condition of the lining membrane of the rectum—See *Rectum*—such as occurs in diarrhœa, &c.; there is the sensation as if the bowel was still unrelieved, and constant instinctive efforts are made to free it; they only increase the evil, and should, by an effort of the will, be desisted from, if possible. In children, straining and sitting too long when the bowels are evacuated, may cause falling down of the bowel. The custom should be corrected.

STOVES—for heating apartments, are certainly apt to prove most unwholesome substitutes for the common open fire-places, if but for the one reason, the very defective ventilation they afford, if they afford any [illegible] all; moreover, even constructed on the best principles, a stove is apt to cause a dryness of the air of an apartment, which not only causes most uncomfortable sensations, especially about the head, but is really injurious and further, in many forms of stove, vapours of sulphur or of carburetted hydrogen are apt to escape. In any room heated by stoves extra provision should be made, both for ventilation—See *Bed-room*—and for furnishing moisture to the atmosphere.

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* Refer to Prolapsus.

Refer to—*Chimney*.

STRAINING.—See *Stools*.

STRAMONIUM.—See *Thorn Apple*.

STRANGULATION.—See *Suffocation*.

STRANGURY.—See *Bladder*.

STRAWBERRY.—This delicious fruit must be classed with the most wholesome productions of the vegetable kingdom. It is recorded of Fontenelle that he attributed his longevity to them, in consequence of their having regularly cooled a fever which he had every spring; and that he used to say, "If I can but reach the season of strawberries." Böerhaave looked upon their continual use as one of the principal remedies in cases of obstruction and viscidity, and in putrid disorders. Hoffman furnished instances of obstinate disorders cured by them, even consumption; and Linnæus says, that by eating plentifully of them, he kept himself free from gout. They are good even for the teeth.

STRICTURE.—See *Urethra—Urine*.

STRUMA.—SCROFULA.—See *Scrofula*.

STRYCHNINE.—See *Nux Vomica*.

STUN.—See *Brain—Concussion of*.

STUPE.—A piece of cloth or flannel soaked in hot-water as a means of fomentation.* See *Fomentation*.

STUPOR.—COMA.—See *Coma*.

STYE.—See *Eye*.

STYPTICS—are applications, usually of an astringent character, which possess the power of arresting hemorrhage. The remedies classed under astringents may all be used as styptics, but many of them are not generally had recourse to as such—that is, as external arresters of bleeding: it is to these that the term styptic is applied in this article.

Oak-bark decoction, and gall-nuts in powder or infusion, which owe their efficacy to the tannin they contain, are used as external styptics, and "Ruspini's Styptic," formerly much in vogue, is said to be a solution of tannin in spirit—see *Oak*. In addition to these, matico and turpentine are styptics derived from the vegetable kingdom; also the agaric fungus popularly known as the "fuz-ball," which is frequently applied to bleeding wounds, and with apparent benefit. From the mineral kingdom many styptic applications may be derived, such as the salts of iron, especially the sulphate and muriate,† the sulphates of copper and zinc, the acetate of lead, and the nitrate of silver. Cold, the actual cautery, or red-hot iron, &c., &c., are all styptic applications. See the various articles. Refer to *Hemorrhage*.

SUBSULTUS.—Spasmodic jerkings of the muscles, which occurs in various diseases of debility, such as fever, &c.

SUCKLING.—See *Children—Child-Bed—Nurse, &c.*

SUDDEN DEATH.—See *Death*.

SUDORIFIC—a promoter of perspiration or diaphoretic.—See *Diaphoretic*.

SUFFOCATION—is the term usually applied to the condition in which air is prevented from entering the lungs by agents which do not compress the windpipe, as they do in hanging or strangulation. The distinction being, that in the latter case, the vessels of the neck are usually compressed, and add, to the state induced in the chest, a congested condition or accumulation of blood in the brain; in the former, the effects are uncomplicated, are purely those of suffocation, or as it is called in medical language, "asphyxia." In this condition, the atmospheric oxygen being excluded from the lungs, the blood is unchanged, either partly or totally, according to the completeness of the obstruction. In this unaltered state, it passes back to the heart—see *Circulation*—by which it is sent with more or less activity through the arteries, and coming in contact with the nerve tissues, it acts upon them as a poison, produces convulsion, &c. The vessels of the lungs and the heart, missing their accustomed and proper stimulant, the arterial blood, gradually cease to act, and life's machinery stands still.

Suffocation is the result of such accidents as immersion in an atmosphere of carbonic acid gas, or "choke damp," of drowning, of foreign bodies becoming lodged in the gullet or windpipe, of spasm. See *Larynx, &c., &c.* As these causes of the accident are all treated of respectively, it is unnecessary to enlarge upon them here.

It is requisite, however, by way of caution, to notice some causes of accidental suffocation, which are sometimes fatal.

People who eat greedily, or who, as in the aged, are unable to chew their food properly, are sometimes suffocated—see *Gullet*—the accident, too, has sometimes followed vomiting in intoxication. A curious case of the kind is recorded, in which a man, who, after vomiting, was put to bed drunk, and shortly after found dead—suffocation having been caused by a small piece of potato skin, so fixed over the opening of the larynx as perfectly to stop the passage of air. In children, a small body like a pea or cherry-stone, accidentally drawn into the air-passages, has caused suffocation; and, very recently, a case was recorded in which a young man was killed by being forcibly pushed into a sack containing bran. The bran drawn into the windpipe caused suffocation.

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* The so-called turpentine stupe is an invaluable remedial agent. A tablespoonful of turpentine is to be sprinkled over the surface of the common stupe before it is applied to the skin.

† The perchloride and pernitrate of iron are both styptic preparations, and find a place in the new British Pharmacopœia.

Infants may be suffocated, oftener perhaps than comes to light, by the very reprehensible practice followed by some ignorant nurses, of giving them a bag of wash-leather, or cloth, filled with sugar, to suck, in order to keep them quiet; if this chances to get too far in the throat, it will certainly suffocate. Death by suffocation in infants "overlaid," by heavy-sleeping nurses, is far from being a rare occurrence; and, indeed, it may happen simply from too great an accumulation of clothes over the mouth and nose.

Other causes might be cited—the above are perhaps sufficient to excite caution.†

SUFFUSION—is a medical term usually applied to the eyes, when they are bloodshot and watery.

SUGAR.—This important article of food and luxury is for the most part a product of the vegetable kingdom, but not entirely so, for it occurs in milk, and in eggs in small quantity, and is also produced by the animal body, under conditions to be hereafter noticed.

Sugar is formed principally of two distinct varieties,—cane, or ordinary sugar, and sugar of fruits, or grape sugar. Both are composed of the elements, carbon, oxygen, and hydrogen, but differ somewhat in the proportions in which these are combined. In addition to the above sugars, Liebig enumerates a third, a non-crystallizable variety; and milk or manna sugar—also differs from them slightly in composition. Cane, or ordinary sugar, is produced by the sugar maple, by the birch, by beet-root, carrots, &c.; but its chief source is the sugar-cane, from which it is most easily and abundantly extracted. To effect this, the canes are crushed between heavy rollers, and the expressed juice, after undergoing certain operations of heating, is left to crystallize, the dark uncrystallizable portion known as treacle or molasses being permitted to drain off. The crystallized sugar which remains is the brown or Muscovado sugar of commerce. As may be expected, it contains many impurities; moreover, the treacle which drains from it is rather the result of bad preparation, especially in the application of heat, than a necessary product. It is, in fact, grape sugar, which has been formed from the cane sugar by the decomposing influence of heat. In order to produce the refined sugars of the shops, other processes of re-solution, filtration, &c., require to be gone through.

Cane and grape sugar differ from each other in some important particulars. The former is only produced naturally, "it is crystallizable," "and, when pure, not prone to deliquesce, or to alter when exposed to moisture or to a moderate temperature."

Grape sugar is also a natural production, but can be formed by art, from starch, &c. —see *Fermentation*—it does not crystallise regularly, and the aggregations into which it forms are very prone to attract moisture. Pure cane sugar ought, therefore, to be crystalline and free from moisture; when it contains grape sugar, which it frequently seems to do, either by natural formation, or by designed adulteration, it is liable to become clammy and moist. According to the investigations of the "*Lancet* Sanitary Commission," from which much of the information contained in this article is derived, experiments show clearly, that cane and grape sugars coëxist in most, if not all, the colonial brown sugars, and even in some of the lump-sugars, and that they even exist together in the cane itself. The amount of the admixture of grape sugar is important, not only from the tendency which it imparts to the whole to become moist,* but because it possesses a much lower sweetening power, and is much more prone to fermentation than the cane sugar. The latter, when purified, is generally free from grape sugar, and from many of the other impurities with which the ordinary brown sugars are intermingled — considerations which render the purchase of coarse sugars a very doubtful piece of economy.

The chief impurities found in brown sugars, as imported into this country, are portions of the cane, and vegetable albumen which imparts a strong tendency to fermentation, and also assists to nourish the sugar acarus or insect—fig. A—which, as shewn by Dr. Hassal, exists in greater or less proportion in nearly all the brown sugars sold to the public. This disgusting impurity in food is, it is said, so considerable in size, "that it is plainly visible to the unaided sight." When present in sugar, it may be detected by dissolving a couple of teaspoonfuls of the sugar in a large wine-glassful of tepid water, the solution being permitted to remain at rest for an hour, "at the end of that time the animalcules will be found, some on the surface of the liquid, some adhering to the sides of the glass, and others at the bottom, mixed up with the copious and dark sediment, formed of fragments of cane, woody fibre, grit, dirt, and starch

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* It is to be feared, however, that *all* the moisture in many of the sugars retailed, is not attracted from the atmosphere.

† See Appendix, article "Drowning."

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even a small quantity of sugar
The idea has been suggested,
ease known as "grocers' itch,"
ose who handle sugar much are
be caused by this insect, which
mbles the itch acarus in form.
ecies of fungus is also generally
the moist sugars.

ned sugars sometimes retain
albuminous matters, serum of
nite of egg, &c., used in their
, also traces of lime, lead, iron,
d in the preparation. Accord-
ancet reports, an examination of
les of lump sugar gave the fol-
lts :—That in nine were frag-
ne, of sugar insects or fungi, to
; that in three there were traces
gar; in ten, of animal matter;
f flour.

g to the same report, an exami-
irty-six samples of moist sugar
at the sugar insect was present
of the samples, and in many of
t numbers. That fungi were also
ll, and besides these, the frag-
ne, grit, &c., already mentioned.
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e time is not far distant when
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r, which differs from the sugars
iced, "occurs in commerce in thick crystalline crusts, which are usually yellowish, yellowish brown, or dirty, from want of care and cleanliness in its preparation;" when purified, however, it becomes very white and hard. Its sweetening power is weak, and it is capable of undergoing the vinous fermentation.*

As an article of nutriment, sugar is of course the representative of the saccharine principles, which include starch, gum, &c.; the position which these principles hold, and the part they fulfil in the processes of nutrition generally, having been sufficiently entered into under article "Food," it is unnecessary to repeat them here.

With regard to the digestibility of sugar by different individuals, there is considerable variation. Some persons cannot consume it, even in small quantity, without being disordered and suffering from acidity, whilst others seem actually to digest their food better when an amount of saccharine is mingled with it. In the West Indies, and other countries where sugar is cultivated, the inhabitants, the negroes especially, are said to improve in health and appearance during the sugar season, when they consume it plentifully; and, undoubtedly, a moderate proportion of this pleasant aliment is a wholesome article of nutriment for people generally, except under those peculiar states of constitution, or rather of disease, when the tendency of the assimilative powers generally is to form sugar even from dietetic principles which could scarcely be expected to yield it. This animal sugar has not only been detected in the blood, but in the stomach, after a person had been fed for days upon animal food alone. Moreover, recent researches render it probable that sugar is formed, naturally, in the liver. In medical practice sugar is used principally to cover the nauseous taste of drugs, which, it must be confessed, are often made much more nauseous by the admixture; it is also useful as syrup in aiding the formation of pills, &c. Sugar is a powerful antiseptic.—See *Diabetes.*

Refer to—*Fermentation—Food—Syrup,&c.*

SUGAR OF LEAD.—See *Lead.*

SUICIDE.—SUICIDAL TENDENCY.—The distressing state of mind which seems to impel individuals to self-destruction, has too exclusively been viewed in its metaphysical light alone, without reference to those states of bodily disorder which unquestionably induce great changes upon the views and feelings, particularly in persons naturally disposed to melancholy. The following observations of Dr. Forbes Winslow, in a lecture recently published in the *Lancet*, are most pertinent to the ques-

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milk is now extensively used, but merely for the purpose of more conveniently administering
a. Cow's milk, sweetened with it, and diluted with water, is an admirable substitute for the
nan female.

tion. He says: "It is the prevalent opinion, even among persons otherwise well educated and intelligent, that this desire of self-destruction is, in the majority of cases, a mental act, unconnected with a disturbed condition of the bodily functions, and incurable by any process of medical treatment; that the mental depression which is so generally associated with the invisible tendency, is an affection of the mind *per se;* the physical organization having no direct connexion with what is termed the *spiritual* impulse. This metaphysical view of the matter is fraught with much mischief, and, I have no doubt, has led to the sacrifice of many valuable lives. It is a matter of the highest moment that the public mind should be undeceived upon this point. Right views on this subject ought to be generally diffused. It is of consequence to establish the belief that the suicidal idea is *almost generally* connected with a morbid condition of the body, and is often the only existing evidence of such an affection; that it is, with a few exceptions, universally associated with physical disorder, disturbing the healthy balance of the understanding; and that this bodily affection, which is in nine cases out of ten, *the cause* of mental irregularity, is easily curable by the judicious application of remedial means. The tendency of the spiritual or metaphysical view of the question is to create a distrust in remedial measures, and the poor man who is struggling against an almost overwhelming desire to destroy himself, is induced to neglect entirely his lamentable condition, under the belief that he is literally placed beyond the reach of curative agents, and that the only remedy for his mental suffering is death!

"If a person in this unhappy state of mind is induced to believe that his mental despondency is but a *consequence* or effect of a disturbed bodily condition, influencing, either directly or indirectly, the natural and healthy operation of the brain and nervous system, and giving rise to perverted ideas—that his malady is curable—he may be induced to avail himself of the means which science has placed at the disposal of the physician, and thus be protected against his own insane impulses."

"Where no disease is suspected, no remedy will be sought. Tell a man who has attempted to destroy himself that he is perfectly sane—that his judgment is sound—that his will is not perverted—that the impulse which urges him to the commission of suicide is not associated with any deviation from corporeal health—and you inculcate ideas not only fallacious, but most pernicious in their character and tendenc We might, with as much truth, tell person playing with a lighted taper at th edge of a barrel of gunpowder, that h life is not in jeopardy, as to say to a perso disposed to suicide, that he is in the perfec enjoyment of health, and requires no mora or medical treatment. It may be laid dow as an indisputable axiom, that in every cas of this kind, bodily disease may, upon careful examination, be detected. I neve yet saw a case where a desire to commit suicide was present, in which there was not corporeal indisposition."

While it is of the highest importance that the connexion which exists between the tendency to suicide and derangements of the general health, or any condition of disease, should be well attended to, it would perhaps be dangerous to lead persons to the idea that all depended upon physical derangement; this there may be, perhaps is, in the majority of cases, at times giving rise to irresistible impulses, at least apparently irresistible, for how far they are so, man cannot judge; but to base too much upon the bodily condition, may hold out inducements to those who are afflicted with the suicidal tendency, to abandon that moral and religious control of their actions, which is so powerful, and which in many cases will overcome in the end. The subject of suicide is one which it is impossible to separate from religious considerations, when it is considered among Christian men; and if these men truly believe that God does assist those who look for His aid in the hour of trial and temptation, they cannot think that in such an hour as that, when one of his creatures contemplates the violent destruction of the life which He has given him, that God will not aid if His help is sought, and strengthen the combat of the higher powers of the mind against the lower principles; for suicide is selfish and cowardly. If an elevated religious and moral tone had nothing to do with controlling the propensity to crimes, and to that of suicide among the number, statistics would not furnish the evidence of the preponderance of these crimes amid people who notoriously cast aside the practical regulation of religion in their lives, individually or socially.

By these remarks, the author does not intend in any way to weaken the force of the previous ones of Dr. Winslow, but to caution the mind, lest the consideration of the physical should obscure that of the spiritual. Nevertheless, it is probable, that, in the first instance, more benefit will be derived by treating the affection as a phy-

ler. When an individual afflicted
idal tendency can be thoroughly
surveillance in private, the effect
cted medical treatment may be
wise, the best and safest plan is
the sufferer to a well regulated
See *Insanity*.

ject of human responsibility,
come by the evil tendencies ori-
physical derangement, it ceases
nsibility, is perhaps one which
ever fathom, but it is one which
upheld to the utmost in such
as a tendency to suicide; whilst
y attention to the medical treat-
physical condition, there should
time be given every encourage-
se who show the least tendency
ngement, to keep, if they can,
as they can, the reins of reason.
can, and often will, overcome
ression from physical causes, but
exerted. The reader is referred
servations under article *Habit*.
cy to suicide is found to be least
who are occupied out of doors.

ATES—are salts, in which the
s an alkali, or a metallic oxide, is
sulphuric acid.—See *Copper*—
Zinc, *&c*.

JR—belongs to the elementary
is found in large quantities in
ic countries, such as Sicily, from
itherto, the chief supply has
ed. It also occurs in the form
sulphurets, such as those of
y called pyrites, from which, in
d other places, sulphur is pro-
the combination of sulphuric
different bases, such as lime,
kc., sulphur is again found, so
way or other it is one of the
dant constituents of the globe.
etable kingdom, sulphur occurs,
ustard tribes, in the grains, &c.;
al kingdom it forms a constant
the albuminous and fibrinous

"sulphur yellow" colour of
d its brittle crystalline texture,
tly familiar in the form of stick
hur. The "flowers of sulphur"
"sublimation," that is by expos-
ulphur to heat sufficient to cause
the form of vapour, the latter
ensed in a cool receptacle, when
form of the well-known "flowers
" Roll sulphur is now made by
ing the sublimed sulphur, and
the form of sticks. In medical
lphur is variously employed, its
application, however, being for the cure of itch, in the form of ointment.—See *Itch*. In various skin diseases sulphur is prescribed by medical men; it is also used as a mild laxative in pregnancy and in cases of piles. For the latter purposes it is advantageously mingled with three or four times its weight of cream of tartar, or with its own weight of magnesia. The sublimed, or flowers of sulphur, is the form in most common use; but the precipitated, or milk of sulphur is rather a more elegant preparation. One very serious objection to the use of sulphur is the abominable odour which it imparts to the person, particularly to the insensible perspiration. There is no doubt that it passes off by the skin in considerable quantity, so freely, indeed, as to blacken silver which the individual taking it may happen to carry about with him.

The dose of sulphur as a laxative, is, alone, two drachms; when mixed with cream of tartar or magnesia, from half a drachm to a drachm. It is best given in a little milk.

SULPHURIC ACID, or Oil of Vitriol—belongs to the class of mineral acids. It is a compound of sulphur and oxygen gas, in the proportion of one of the former to three of the latter. As usually met with, it contains a certain amount of water, but it may be obtained pure, and in the form of a crystalline solid, "glacial sulphuric acid." Sulphuric acid was formerly procured solely by distillation from the sulphate of iron, or green vitriol, and indeed is so yet in some places. It is now made in Britain on an immense scale, by decomposing sulphur along with saltpetre in immense lead-lined chambers. As usually met with, sulphuric acid is a liquid of oily consistence—hence its name, oil of vitriol. It ought to be colourless, or nearly so, but frequently it has a brownish tinge from the presence of impurities. It is highly corrosive, destroying with great rapidity whatever textures, living or dead, it may happen to come in contact with. When mingled with water a great development of latent heat takes place; in some proportions, indeed, so great as to raise the temperature of the mixture as high as 300° Fahr. After cooling, the bulk of the mixed fluids is considerably less than that which they occupied separately. For medicinal purposes, sulphuric acid is used diluted in the proportion of one part and a-half of acid to fourteen and a-half of water, and it is better for unprofessional persons to buy it thus prepared; indeed, unless absolutely required in a concentrated form for some special object, sulphuric acid should never be kept in a private house otherwise than diluted. Some lamentable poisonings have happened in consequence of neglect of this precaution. When concentrated sulphuric acid is mingled with water, the development of heat which occurs must be borne in mind, otherwise, the vessel, especially a glass one, may be cracked, and injury to clothes or person be the result. The mixture is best made by adding the acid to the water in small quantities at a time, and mixing each by agitation, before more is added. Indeed the water ought to be in a state of agitation when the acid is added, for if not, the extreme weight of the latter will carry it to the bottom of the vessel, and there cause heat to be so strongly developed as to crack it.

As a medicine, *diluted* sulphuric acid is extremely valuable. In relaxed states of the system, it is one of our best tonics, given in doses of from ten to twenty drops in a large wine-glassful—or two ounces —of water. In this way it preserves tone, and checks the perspirations in pulmonary consumption, and, when the case is suitable, improves both appetite and digestion. It also exerts considerable diuretic properties. Sulphuric acid is a powerful controller of internal hemorrhage—see *Abortion*—it is also one of the commonest additions to gargles. Some persons find this medicine gripe a good deal, and if taken by nurses it is almost certain to disorder the infant. In other cases, however, ten drops added, to small well-diluted doses of Epsom salts, are serviceable. When sulphuric acid is taken medicinally, it ought, like the other mineral acids, to be sucked through a quill, or small glass tube, to prevent injury to the teeth, on which it acts powerfully: it is well to rinse the mouth with water containing a small proportion of soda immediately after taking the dose. In consequence of its employment for various household purposes,—

Poisoning by sulphuric acid is not very uncommon, and if the acid be strong, is one of the most distressing accidents of this nature which can happen. The person is generally conscious of the description of poison which has been swallowed. According to the strength of the acid, there is intense burning pain in all the parts, from the mouth to the stomach, with which it has come in contact, and if it be of corrosive strength, these parts look white and shrivelled. There is also vomiting of shreddy and bloody mucus, great constitutional depression, and, probably, if the acid has been strong, speedy death.

In such cases, the first thing to be done is, to neutralize the action of the poison by
alkaline and demulcent remedies. Ma
chalk, lime-water, potash, soda, soap-
wood-ashes, milk, and oil, are all ren
and in such a case, that which is fir
procured is the best; if there is p
choice, magnesia or chalk is general
ferable. In the absence of either o
antidotes, a portion of wall plaster,
tar, rubbed up with milk or water,
used. At the same time, fluids m
given very copiously. When inju
resulted from the application of co
sulphuric acid externally, the best p
ing is to wash the parts freely with
alone, or with water containing an
as soap-water does.

Aromatic sulphuric acid is a p
form of medicine which might with
tage be more used in England than i
present: the dose is from ten to
drops in a wine-glassful of water.

Sulphuric Æther* which is more
rally known as "æther," is procured
action of sulphuric acid on alcohol,
distillation. It is a perfectly col
limpid fluid, of very light specific g
and very volatile: its odour, peculi
penetrating, is usually called the "æ
odour." It is chiefly employed in
cine as a "diffusible" stimulant, t
it acts very rapidly and energeticall
stimulant when taken into the stomac
on that account is peculiarly valua
some diseases, such as angina, spasms,
tended with sudden violent symptoms
also a powerful restorer in the depress
ditions of the system, such as faintne
For the above purposes sulphuric æ
given in doses of twenty drops in wat
more convenient form, however, is the
of sulphuric æther, which consists of o
of the æther mixed with two parts of al
it acts in the same way as sulphuric æ
the dose about forty or fifty drops in
The transient effect of æther renders
many cases less valuable than sal vo
or the spirits, such as brandy. Its
spasmodic power is increased by the
tion of opium. When bottles cont
this æther are opened at night, its
inflammable character, even in liqui
especially in vapour, ought to be bo
mind, and care taken that lighted c
are not too nearly approached. In
æther, it is not to be forgotten that it
on the top of the water, and thus, th
bottle containing three or four doses o
dicine, of which æther forms an ingre
be not shaken before each dose is poure
more than the proper proportion of
will be poured out first.

Æther, from its extreme volatility,

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* This substance is now called spirit of ether in the British Pharmacopœia.

porates rapidly in the ordinary atmosphere, and in doing so occasions a considerable amount of cold; of this, advantage is sometimes taken in medical practice when such an effect is required. The power of æther, when inhaled, to cause "anæsthesia," or insensibility to pain, is the characteristic which has excited most attention of late years; the superior and more convenient effect of chloroform has, however, thrown this, comparatively at least, into the background. Inhalation of æther is a proceeding which should never be tampered with by unprofessional persons.

SUMMER.—See *Seasons—Heat, &c.*

[*]**SUN.**—See *Heat—Light, &c.*

SUPPER.—The last meal of the day is properly supper, and some of the modern dinners would more aptly fall under the former designation. Much has been said respecting the unwholesomeness of eating suppers—much depends on circumstances. Generally speaking, animal food once a-day is sufficient for most; if, therefore, an individual for whom it is enough, after a sufficiently good meat dinner, adds a superfluous meat supper shortly before retiring to rest, there can be little wonder if he pays the penalty in sleep disturbed by dreams and night-mare, and by a furred tongue and unrefreshed waking in the morning. This is especially the case if the superfluity is indulged in after a dinner made in the latter part of the day. If dinner is early, if much exercise is taken between that and the evening meal, and if supper is not eaten at too late an hour, many persons can take with benefit a moderate proportion of animal food.

It certainly is better not to eat a meal heavy, either in quantity or quality, before a period of inactivity and sleep so prolonged as that of the night; but there is no doubt that much of the bad character of supper as a meal, has arisen from its being too often one of superfluity. Those to whom suppers are most injurious are the plethoric, or such as suffer from head symptoms. Some persons, however, especially dyspeptic invalids, do themselves harm by abstaining from suppers of every kind, even after the principal meal has been taken early in the day. They do this under the idea that all suppers are bad, and suffer, in consequence, from uneasy sensations in the stomach during the night, and from a sense of exhaustion in the morning, both of which may be prevented by a moderate supper of light food, such as is generally found to agree best: many a dyspeptic will find his morning meal better digested after a light supper than without. Refer to *Breakfast--Dinner, &c.*

SUPPOSITORY—is a medicine in a solid form passed up into the rectum. In some cases, this mode of administering remedies is very convenient, especially when the stomach cannot receive them readily. Generally, it is most suitable in painful diseases,—such as those of the bladder, womb, &c.—situated in the vicinity of the lower bowel. In such cases, the suppository must of course be anodyne, usually opiate, which may be thus made to exercise its effects without disordering the stomach. A grain of powdered opium, with five or six of *firm* henbane extract, makes a very good suppository. A suppository may be introduced into the bowel on the point of the finger, both being well greased; the operation is, however, better and more conveniently done by the suppository tube made for the purpose.[†]

SUPPRESSION.—The cessation, or non-development of an ordinary secretion, or excretion.

SUPPURATION.—The formation of pus, or matter.—See *Inflammation—Pus, &c.*

SURGEON AND SURGERY.—Literally, by the word surgeon is meant an individual who employs his hands in the treatment of diseases, and, by consequence, one whose practice is limited to the external treatment of external affections, and such as require manual interference for their removal. Practically, no such distinction can exist.—Refer to *Physician—Practitioner-General, &c.*

SUSPENDED ANIMATION.—See *Death—Drowning—Carbonic Acid—Hanging—Suffocation, &c.*

SUTURE—in surgery, means a joining, by means of threads or stitches, of the edges of a wound.—See *Wounds.*[‡]

In anatomy, the term is applied to the junctions of the bones of the skull.—See *Skull.*

SWALLOWING.—See *Alimentary Canal—Gullet—Throat, &c.*

SWEAT, or PERSPIRATION—is the fluid thrown off from the blood, "excreted," through the agency of the skin, or rather of the glands contained within the texture of the skin.—See *Skin.*

Refer to—*Diaphoretics.*

SWEETMEATS.—See *Confectionary.*

SWEET SPIRIT OF NITRE.—See *Nitrous Æther.*

SWELLED LEG.—See *Leg.*

SWELLING.—Increase of size of different portions of the textures of the living body may arise from a variety of causes. The swelling may be either of a fluid or of a solid character. In the former case, it may be caused by increased accumulation or determination of blood in or to the part, the blood being still contained within the blood-vessels; more usually, however, fluid swelling is caused by blood or other fluid not contained within the vessels, but effused into the textures where the swelling occurs. Of this nature is the swelling which occurs after violence; it is, in fact, the result of the effusion of blood—inward bleeding—or of serum into the tissues. The formation of matter also causes swelling. Fluid swellings are in many cases of rapid formation; solid swellings, from their nature, are in general necessarily of slow increase. In rupture, of course, the presence of gas in the protruded bowel renders that a cause of swelling, though comparatively an unfrequent one. As the different forms of swelling are noticed under other articles, it is unnecessary to reiterate them here.—See *Tumour*.

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[*] SUN-STROKE.—See Appendix.—Special article upon.

[†] Suppositories of tannic acid and of morphia have been admitted into the British Pharmacopœia.

[‡] Sutures of silver wire are now very generally substituted for silk.

SWINE-POCK—or SWINE-POX—is a variety of chicken-pox, characterized by the conical form of its vesicles.—See *Chicken-pox*.

[*] SWOON.—See *Fainting*.

SYMMETRY.—The term, as applied to the human form, includes that proportionate adaptation of the various parts of the body to one another, which gives, not only grace and beauty, but strength; and, it may be added, in some degree, health. The latter observation is especially applicable to the symmetrical development of the trunk of the body, which can scarcely be unsymmetrical, and still less, deformed, without the contained vital organs being injuriously impeded in their functions. Deformed persons suffer more than others from bad health, and if they are subjected to an attack of acute disease affecting the impeded organs, they are more liable to succumb. Thus, an individual, in whom spinal curvature, by distorting the ribs, &c., injures the symmetrical development and proper capacity of the chest, is more liable to chronic affection of the lungs and heart, and such attacks as bronchitis, and the like, are more severely felt. Want of symmetry, or deformity of the limbs, is less important than when the trunk is affected, the importance varying, of course, with the nature of the case; it may, however, and does occur, that unsymmetrical development, of the lower limbs especially, leads ultimately to greater or less distortion of the trunk also. Moreover, in many cases, want of symmetry must be regarded as the sign of a constitution hereditarily weak, or as the result of sickliness in childhood.

The subject of symmetry is an extensive one, embracing, as it does, the theories of ideal beauty, and the standards of measurement, proportional and otherwise; into these it needs not to enter here, but it may be adopted as a general rule, that the symmetrical development of a race or nation must in some degree be commensurate with their general sanitary condition, the means of obtaining proper nourishment, and their free exposure to light and air. Under article, "Light," it was stated that Humboldt has attributed the absence of deformity among the Caribs, Mexicans, Peruvians, &c., to the constant exposure of the body at large to strong light; and, under the same article, the effect of a diminished supply of light, in giving a tendency to the production of deformed children, was also alluded to. Analogous effects will be found to follow, according to the fulfilment or not of other sanitary conditions; there is no surer sign of a people advancing higher in the scale of comfortable subsistence than the improvement of their physical development and symmetry. The reverse of this is seen in the degeneracy of some of the Irish in the more remote districts on the west coast, in the Indians of the rocky mountains, and others. Although comparative symmetry is to be met with among many nations, and in the persons of individuals, absolute symmetry, in the sense of perfect balance, and correspondence of the two halves of the body, is probably not to be found, and exact measurements go to prove that there always exists some disparity between the corresponding degrees of different sides.

Symmetry is not, however, confined to the actual development of healthy tissues, it extends to and influences many forms of disease, such as often occurs in the symmetrical distortions, so to speak, of gout, rheumatism, &c.

Refer to—*Deformity—Spine, &c.*

SYMPATHETIC NERVE.—See *Nervous System*.

SYMPATHY.—In man, probably in the higher animal tribes, there exists between certain different portions and organs of the same living body, a bond of connexion, or at least of relative action, through which excited or diseased action in the one is excited in the other, "sympathetically," as it is called, or by "sympathy." It is evident, however, that what are called sympathetic actions arise, apparently, at least, in very different ways. Some which are classed as such are evidently the result of contiguity, others of reflex action—see *Nervous System*—or at least of nervous communication, others of derivative action.—See *Derivative*.

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[*] Sylvester's method of restoring suspended animation.—See Appendix, article "Drowning."

SYMPTOMS.—In a state of perfect health, all the functions of the living body are performed in regular series, and according to certain modes of action, which we recognise as those of health. When, however, these series or modes become deranged or altered, there arise certain signs, or as they are generally called, "symptoms," which, as they vary according to the nature of the cause that produced them as effects, afford to the medical man a clue to the detection of the cause, more or less perfect, according to the state of his knowledge, experience, and means of investigation—they in fact furnish the means by which he forms his "Diagnosis" in the first instance, and which guide his opinion as to the treatment and ultimate issue of the case.

There are certain symptoms both general and special, which are too marked to escape detection; some, indeed, are forced upon the attention by the complaints of the sufferer, and others are too palpable not to attract the notice even of the unobservant. Beyond these plain and palpable symptoms of disease, however, which "he who runs may read," there are others which lie deeply hidden from ordinary eyes, which it requires all the advantages of knowledge and experience, of educated ear and eye, and of patient attention, to discover, and when discovered to read. There are many signs and characters brought to light in the explorations of the physician, both in the living and in the dead body which he may see, but cannot read correctly, if he can read them all. Again, there are symptoms which one man can see as symptoms, but which another cannot, and therefore passes them by unheeded; and further, there are other symptoms which one man can not only see, but interpret, but of which another, if he sees them at all, can make no use. In this lies the difference, in one department of practical medicine at least, between the skilled and unskilled practitioner. It does not follow of *necessity*, that the man who, from his knowledge of symptoms, and of what they indicate, is most successful in the investigation of disease, is so likewise in its treatment, but the chances are greatly in his favour.

If many symptoms pass before the eyes even of the most skilful, which either cannot be seen, or if they are seen, cannot be correctly interpreted, how superficial must that knowledge of disease be which unprofessional persons can gather from the comparatively few symptoms they are capable of observing or appreciating? How cautious, then, ought such persons to be when circumstances call for their management, temporary or permanent, of even the most trivial ailments. In observing and forming deductions from symptoms, the first questions ought to be, do they indicate an acute attack? have they supervened suddenly? and if so, to what can the attack be traced? Has there been exposure to cold and wet, or to checked perspiration? those fruitful sources of inflammatory and rheumatic affections. Has there been exposure to contagion in any form, or to malaria of any kind, or is there any prevailing epidemic? Can any violence, at no very distant date, account for the attack? Careful consideration of the "history" of the affection will often throw much light upon its nature. Again, if the usual symptoms of fever indicate inflammatory affection, it is to be considered whether pain or uneasiness in any part, or disordered function of any organ, indicate that the disease has localized itself. If inflammatory symptoms are absent, the spasmodic character of pain—see *Spasm*—or the nervous character of the general disorder, become question for consideration. Should the symptoms of ailment be chronic, the same consideration of the history and of the hereditary tendencies ought to be entered into, and attention particularly directed to the fact of there having been progressive loss of flesh, habitual complaint of cold, unusual lassitude, alteration in the complexion, difference in sleeping, &c.

By systematizing inquiries and observations, a much clearer idea will be gained of the state of an individual who is an object of care and solicitude, than by making them at random. Thus, beginning at the head, attention should be directed to any unusual sensations complained of by the person, or any unusual manifestations apparent to others. These are pain, giddiness, affection of the senses, confusion of thought, or impairment of mental power; flushings, twitchings, drawing of the features to one side; disturbed sleep; moaning; grating of the teeth; sleeplessness or too great somnolency. Passing downwards to the organs of respiration; alterations in the character of the voice; in the respiration, as to the frequency or otherwise; in the power of lying in any or every posture, are all matters for observation; also any habitual cough, and its character. When the digestive organs are disordered, the times of their chief disorder, as connected with taking food, is an important symptom; whether the uneasiness comes on quickly after a meal, or not for some hours; whether it is worse after long fasting, or the reverse; whether there is habitual vomiting, &c. With respect to the bowels, the nature of the motions or stools is to be inquired into, and especially the fact of thorough daily relief. In inquiry into the state of the urinary organs, the amount of the secretion, its nature as to colour, or its tendency to deposit sediments immediately after being passed, or when it becomes cool, are principal objects. If the calls are too frequent, it is to be noticed whether this depends on increased quantity or on diminution, which causes irritation from greater concentration. In this way, by carefully and systematically considering a case, even an unprofessional person may acquire very considerable knowledge of its leading features, sufficient probably to enable him to refer to those articles in this work from which he will derive proper information; in many cases, sufficient to open the eyes to a condition of health that calls for the prompt submission to proper medical advice; and when this is determined on, the observation of symptoms, either in his own case or in that of another, such as a child, will enable an individual to furnish a medical man, even at a first interview, with such a history as will afford him much assistance in forming his opinion.

Refer to—*Diagnosis, &c. &c.*

SYNCOPE.—A state of swoon or fainting.—See *Fainting*.

SYNOVIA—or SYNOVIAL FLUID—is the fluid which is secreted within the joints by the lining or synovial membrane, for the purpose of lubricating the opposed cartilaginous surfaces of the bones, and facilitating their movements upon one another. It contains a considerable amount of albumen, and from its unctuous quality is known popularly as "joint-oil." When, from any cause, a joint becomes the seat of irritation, there is apt to be a greatly increased secretion of the synovial fluid. This takes place in what is called "white swelling" of the knee.—See *Knee*.

SYPHILIS—or the VENEREAL DISEASE—is disease contracted in consequence of impure connexion. The fearful constitutional consequences which may result from this affection; consequences, the fear of which may haunt the mind for years, which may taint the whole springs of health, and be transmitted to circulate in the young blood of innocent offspring, are indeed terrible considerations, too terrible not to render the disease one of those which must unhesitatingly be placed under medical care. In the meantime, if any delay must occur, the pustule sores which may be observable should be well touched with caustic, the diet should be reduced and deprived of stimulant, and the bowels acted upon by moderately active aperients; viol
cise being at the same time avoide

Whatever the circumstances ma
and for all the author would wan
any trust being placed in the spe
vertisements in connexion with t
in question, which are so perseveri
disgustingly paraded before the p
by quacks, who endeavour to f
silly dupes who resort to them,
exciting their fears.

SYRINGE.—This well-know
ment is useful domestically f
purposes, and its employment i
mended in various articles in th
work. Generally speaking, the
pewter syringes are procured too
be of much use: an instrument c
holding an ounce of fluid will be
convenient size.*

SYRUP.—A saturated solution o
water. A great variety of medicin
are made, but many of them are
tively little used. The ordinary sim
is made by dissolving, with the aid
heat, five pounds of refined sugar
ounces of water. Syrups made w
fined sugar, are much more liable t
than those made with it purifi
Sugar. A syrup should always, if
be kept in a situation with the te
under 55° Fahr.

SYSTOLE—is the contractile
the heart, by which the blood is
from the cavities. It is the revers
tole.—See *Diastole—Heart, &c.*

TABES—or TABES MESENTERICA
a disease characterized by wastin
phy.—See *Atrophy*. The term, ho
applied to a special diseased conditi
causes atrophy, the essential nature
is scrofulous or tuberculous aff
the "mesenteric glands"—see *D*
through which the chyle or nutrie
extracted from the digested food,
its way to the blood. The disease
may be called consumption in the b
though differing in many respects f
sumption in the lungs, there a
points of analogy between the two

Mesenteric tabes is a disease alm
liar to the scrofulous constitution,
hereditary or engendered, and it
occurs previous to the completio
twelfth year, most frequently pre
the ninth; some consider that
while nursed at the breast, are l
to be affected by this form of scro
the rule is by no means absolute.

Probably, the first symptom w
tracts attention in a child beco

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* Pewter syringes are apt to be acted upon by some solutions which are used medicinally. In
the glass syringes or, still better, those made of vulcanite, are preferable. The latter are not
broken when used, which is an advantage.

of tabes, is the progressive emacia-
oincident with undiminished, and
reatly increased appetite, sometimes
praved appetite, the child evincing
desire for such indigestible food as
more especially. Along with these
ms there has generally been com-
t different periods, perhaps two or
mes in the day, of pains in the belly,
probably were attributed to griping.
ols, if attention is or has been directed
, are found to be unnatural, irregu-
stive or relaxed, often frothy, and
ur, especially, much lighter than in
apparently from deficiency of bile—
cuations look clayey or chalky. If
ase has made some little advance,
ay or may not be some amount of
ess of the belly on pressure. There is
fretfulness and irritability of temper,
dency to flushing in the evening, and
piration—which smells heavy and
sable—at night. As time advances,
ciation becomes more marked, and
nuated limbs contrast strongly with
lomen, which probably, but not
becomes tumid; the features lose
lumpness, the skin of the face is
d, and the whole countenance often
hes in appearance that of an aged per-
e veins are prominently marked on
ite skin, and with the latter, the pre-
ral redness of the lips often strongly
ts. When the disease reaches an ad-
stage, hectic fever is regularly esta-
, and the patient dies exhausted, if
off previously by some acute attack
mmation. The predisposing cause
lisease is, certainly, in the first place,
fulous constitution; its development,
r, is greatly favoured by those defi-
nitary arrangements to which the
classes are exposed, especially the
e of damp and ill-ventilated rooms,
d with deficient food.

is a prevailing popular idea, that a
y large or prominent belly is an
on of a tendency to the disease in
; this, however, does not appear
e case, neither is the prominence of
omen always a marked symptom,
indeed, it be occasioned by flatu-
ntil the later stages of the disease,
n the enlarged glands can frequently
hrough the thinned walls of the ab-
which, moreover, are covered with
, often tortuous veins.

nteric tabes is so fatal a disease, es-
if it is allowed to make any pro-
fore treatment is adopted, that its
nptoms cannot be too soon detected
nded to; and those who have under their care children who exhibit scrofulous tendencies—see *Scrofula*—ought to be alive to the possibility of its taking place. Should its occurrence be suspected, the safest and best plan will be to place the patient under proper medical care at once. Medicine, however, is not more requisite than strict attention to the sanitary regulation, to the ventilation, dryness of the sleeping and other apartments, to exercise in the open air, to due clothing, with flannel next the skin, and to the food, which ought to be nourishing, consisting of well-cooked fresh meat, mutton especially, at least once a-day, or well-made nourishing animal broth, nourishing puddings, &c., but with avoidance of all cheese, pastry, &c. A little port wine, or porter, may be useful in some cases, but of this a medical attendant can only safely judge. With regard to medicine—the paleness of the motions, suggesting the idea of deficient secretion of bile, often gives rise to undue perseverance in mercurial remedies. For remedies in this disease the reader is referred to article "Scrofula;" indeed the general treatment of that state of constitution is so similar to what is required in the mesenteric affection that it is superfluous to repeat it, with exception of noticing the almost specific powers of cod-liver oil in many cases of this disease; the following may serve as illustration. A child eight months old was shewn to the author, very reluctantly, by its mother, who, as well as her relatives generally, had abandoned all idea of its living beyond a few days. It was a complete specimen of the advanced stage of mesenteric disease; the limbs were shrunk till they resembled sticks covered with parchment, the features withered and old looking, the prominent belly was hard, knotty, and covered with enlarged veins, and, as if in constant pain, the infant screamed almost perpetually. With some persuasion the parents consented to try cod-liver oil given in tea-spoonful doses twice a-day, and rubbed into the belly in the same quantity twice a-day. Under this treatment the child at once began to improve, and in the course of three or four months had lost every appearance of disease. He is now a fine healthy boy. Similar treatment checked the disease in an early stage in a younger brother of the above patient.

Before taking leave of the subject, it is proper to notice a habit by which children predisposed to this and other scrofulous diseases, are apt greatly to injure themselves; it is that of sleeping with their mouths and heads under the bed-clothes. It should never be permitted in any child.

Refer to *Atrophy—Digestion—Scrofula, &c.*

TAMARINDS—are produced by a tree, which belongs to the leguminous or pea tribe, a native of India, &c., and also cultivated largely in the West Indies, for the sake of the acid pulp of the pods, which resemble somewhat those of the common field bean. Tamarinds are brought to this country either simply dried, or preserved in sugar, in jars or casks. The appearance of the pods mingled with fibrous substance and seeds, and immersed in syrup, liquid or partly crystallized, is sufficiently well known. Preserved tamarinds are cooling and aperient, and a welcome addition to the sick-room dietary in many febrile diseases. They are most beneficially employed in the form of infusion made with hot water, and permitted to become cold. A pleasant aperient whey is made by boiling an ounce of tamarind pulp in a pint of milk. The acids of the tamarind are chiefly the citric and tartaric.

TANNIN AND GALLIC ACID—Tannin is the active astringent principle of the nut-gall.—See *Gall—Nut*.—When exposed to the atmosphere in a state of moisture, it appears to attract oxygen, and to be converted into gallic acid. Both tannin and gallic acid are powerful astringents, and are widely diffused as the astringent principle throughout the vegetable kingdom. The former is met with in the form of a yellowish powder, the latter in fine, white, silky-looking crystals. Both are soluble in water, and in solution are used externally for the same purposes as astringents generally; from half a drachm to a drachm in half a pint of water forming an astringent lotion. Tannin or gallic acid is generally given internally in the form of pill, in hemorrhage and other similar affections, in doses of three to six grains every two or three hours if requisite*

TAPE-WORM, also called TÆNIA.—See *Worms*.

TAPIOCA—is a starchy substance, or fecula, like sago; it is procured from the root of a shrub, which is cultivated chiefly in the West Indies. The root, which is known as the "bitter cassava," contains a juice possessed of highly narcotic poisonous qualities; this juice is thoroughly removed by washing, and the starch, or tapioca, dried in the form of grains, resembling, but two or three times the size of, the sago grain. Tapioca is used in sick-room cookery for the same purposes as arrow-root and sago. Dr. Christison remarks of tapioca, "no amylaceous substance is so much relished by infants about the time of weaning; and in them it is less apt to become sour during digestion than any other farinaceous food, even arrow-root not excepted." An imitation "British tapioca" is made from potatoes, and is very wholesome.

Refer to *Fecula*.

TAPPING—in medical practice, is the withdrawal of fluid which has collected in unnatural quantity in any of the natural cavities of the body. The operation can only be performed by a medical man.

TAR AND PITCH.—The well known black viscid substance tar, is obtained from the wood chiefly of the Scotch fir, by the agency of heat. The process, which varies in detail according to the situation, is essentially what is called, "distillation per descensum," that is to say, the wood being placed in a hollow of the ground, or in a pot, is kindled, and being covered up, is allowed to burn with a smothered combustion; by this means the tar is formed, and is collected by suitable arrangements at the bottom of the receptacle in which the process is carried on. For medical purposes tar has been used from the most ancient times, and within recent dates its employment has been strongly advocated by different persons, more especially by Bishop Berkely, as a remedy in chest affections, chronic bronchitis, incipient consumption, &c. Tar is usually administered in the form of tar-water, which is best made by digesting—stirring occasionally—one ounce of tar in thirty-two ounces of water for seven or eight days, and then straining. The dose is half a pint twice a-day mixed with milk. The vapour of tar has also been recommended, but has not been generally employed. Tar is now chiefly used as an external application in some cases of skin disease, either in the form of water, or in that of ointment, made by melting together by heat, equal parts of tar and suet, and squeezing through linen. Pitch is the hard black brittle residue left after tar has been exposed to heat. It is little used. Pills made of pitch are a popular, and certainly at times a successful, remedy, in bleeding piles.†

Refer to *Piles*.

TARANTULA—is a species of large spider, common in Southern Europe, the venomous bite of which produces effects similar to those of the scorpion sting. Many fabulous tales of the effect of the tarantula bite were formerly currently received.

TARAXACUM—See *Dandelion*.

TARTAR ON THE TEETH—See *Teeth*.

TARTAR EMETIC—or TARTARIZED ANTIMONY—See *Antimony*.

TARTARIC ACID—belongs to the class of vegetable acids. It is the characteristic acid of the grape, from which source it is procured. In the fruit, it exists in combination with potash, as bitartrate of potash, or cream of tartar, the acid when prepared being separated from the alkali by chemical process. For an account of the mode in which cream of tartar is obtained, the reader is referred to article "Potash."

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* Both lozenges and suppositories of tannic may now be had, made according to the formula of the British Pharmacopœia.

† Dr. Skinner, of Liverpool, gives the following formula for tar water to be used in cases of cancer:—Tar, one pound; water, one gallon; stir for a quarter of an hour, and strain. The cases are probably few in which it would be of benefit. Tar capsules are now made, and are certainly a pleasant mode of taking the remedy.

Tartaric acid is met with both in crystal and powder, generally the latter. Its principal use is to form the acid ingredient for effervescing mixtures of various kinds—and for this purpose it is well adapted, wholesome and cheap. It is also a good solvent for quinine.

Refer to *Effervescing*.

TASTE—See *Tongue*.

TAXIS—See *Rupture*.

TEA.—Few articles consumed by man as food, require more careful consideration in every point of view than this important and widely-used product of the vegetable kingdom; which, as we shall see, is not only a luxury, a cheering but not inebriating stimulant, but a valuable addition to the essentials of healthy nutrition. The tea plant is a native of China, Japan, and Tonquin; and, until late years, the supplies to this country were all brought from China; its cultivation, however, in the province of Assam, in India, has opened up a new source, and one which promises eventually to be advantageous in every way.

"*The principal varieties of black tea are Bohea, which is the commonest and coarsest description, Congou, Souchong, Caper and Padre-Souchong, and Pekoe, which are of the highest quality, the last consisting of the very young, and of the unexpanded leaves; and which, when clothed with down, constitute flowery Pekoe. The principal varieties of green tea are Twankay, Hyson-skin, Young Hyson, Hyson, Imperial, and Gunpowder, which, in green tea, correspond with flowery Pekoe in black. There is but one species of the tea-plant, from which the whole of the above and many other varieties of tea are obtained—the differences depending upon soil, climate, weather, age of the leaves, and mode of preparation. The plants from which black teas are prepared, are grown chiefly on the slopes of hills and ledges of mountains; while the green tea shrubs are cultivated chiefly in manured soils."

Tea in itself possesses a natural fragrance which requires no addition, the Chinese themselves saying, "that only common tea requires scenting;" nevertheless, there are various scented teas which are said to be in high estimation even in China. The principal constituent of tea which it yields for solution when infused, in addition to its characteristic nitrogenized constituent theine, is the astringent principle tannin. See *Tannin*.

Tea, it is well known, is liable to immense adulteration—much after it reaches this country, but partly in China. It is said "the Chinese annually dry many millions of pounds of the leaves of different plants to mingle with the genuine," and "the leaves of the following species have been detected from time to time, in samples of tea of British fabrication:—beech, elm, horse-chestnut, plane, bastard-plane, fancy oak, willow, poplar, hawthorn and sloe."

One of the most frequent adulterations of tea is its admixture with exhausted leaves which have been re-dried. "It was supposed in 1843, that there were eight manufactories for the purpose of re-drying exhausted tea-leaves in London alone, and several besides in various parts of the country. Persons were employed to buy up the exhausted leaves at hotels, coffee-houses, and other places, at 2½d. and 3d. per pound. These were taken to the factories, mixed with a solution of gum, and re-dried. After this, the dried leaves, if for black tea, were mixed with rose-pink and black-lead, to face them, as it is termed by the trade."

Catechu is a frequent addition to the exhausted and other leaves, in order to supply the astringency which is wanting. This drug forms also a principal constituent of such articles as "La Veno Beno," "Chinese Botanical Powder," &c., which are sold to be added to tea, as chicory is to coffee. It is perhaps superfluous to add, that such additions are highly deleterious, and should never be employed. Sulphate of iron or green vitriol, rose-pink, logwood, plumbago, indigo, &c., are all used at times in the adulteration of tea. Adulterated teas are seldom sold alone, but are mixed in greater or less proportion with the genuine. In the *Lancet* Report it is stated, "That out of twenty-four samples of black tea purchased of tea-dealers and grocers resident in the metropolis, twenty were genuine, and four adulterated; the former being Congous and Souchongs, and the latter samples of scented Pekoe and scented Caper."

Green tea is so greatly adulterated, that although there certainly is a genuine preparation of this kind, it seems doubtful whether any is sold pure. From authentic examinations, "it appears that all the green teas that are imported into this country are faced or covered superficially, with a powder consisting either of Prussian blue, or sulphate of lime, or gypsum," or of some other colouring matters. The principal conclusions arrived at in the *Lancet* Reports from the examination of many different samples of green tea are,—

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* The above extract, and much of the information contained in this article, is derived from the *Lancet* Reports.

"First. — That these teas, with exception of a few of British growth and manufacture from Assam, are invariably adulterated—that is to say, are glazed with colouring matters of different kinds.

"Second.—That the colouring matters used are in general Prussian blue, turmeric powder, and China clay, other ingredients being sometimes, but not frequently, employed.

"Third.—That of these colouring matters, Prussian blue possesses properties calculated to affect health injuriously.

"Fourth.—That in this country there is really no such thing as a green tea—that is, one which possesses the natural green hue considered to characterize that kind of tea.

"Fifth.—That green teas, and more especially the gunpowders, in addition to being faced and glazed, are more subject to adulteration in other ways than black teas."

The chief adulteration is the spurious or "lie tea," manufactured in China from other leaves than those of the tea plant. It is impossible that any systematic adulteration of an article of diet of such universal consumption as tea, can fail to be most injurious to the health of the community at large, and especially to that of the poorer classes, who buy the low-priced teas in small quantities at a time, and who, moreover, in many places at least, have a strange predilection for green teas, which we have just seen are scarcely to be met with free from adulteration. The subject is one which demands attention from every one. Nor is the adulteration an active evil only, it is a passive one also; for, by diminishing the amount of the "theine," the active principle of tea, it deprives the poor consumer of nitrogenized aliment, which to him stands partly in lieu of animal food.

It is probable that there are few more remarkable facts in the history of mankind, than that which has been brought to light by the recent researches of organic chemistry, respecting the identity of composition of the principles to which tea, coffee, and also cocoa, owe their characteristic properties. On this head Liebig remarks, "We shall certainly never be able to discover how men were led to the use of the hot infusion of the leaves of a certain shrub—tea—or of a decoction of certain roasted seeds—coffee. Some cause there must be, which would explain how the practice has become a necessary of life to whole nations. But it is surely still more remarkable, that the beneficial effect of both plants on the health must be ascribed to one and the same substance, the presence of which in two vegetables, belonging to different natural families, and the produce of different quarters of the globe, could hardly have presented itself to the boldest imagination. Yet recent researches have shown, in such a manner as to exclude all doubt, that caffeine, the peculiar principle of coffee, and theine, that of tea, are in all respects identical." The above facts are the strongest possible argument in favour of the assumption, that man, as he advanced in civilization, required for comfort, and probably also for health, some, at least, occasional addition to the simple element. What can be more significant of design than this—that we find in two distinct quarters of the habitable globe, man using, as a daily drink, two distinct forms of vegetable infusion, made, the one from a leaf, the other from a berry, each produced by totally different plants, and yet each exerting nearly the same physiological action upon man? This was calculated to excite admiration; but how much more when the researches of modern science elucidated the startling fact, that nations in different quarters of the globe had ignorantly but instinctively been led — we speak now as regards science—to adopt, for the same purpose, these apparently dissimilar materials, which yet owed their characteristic properties to active principles identical in composition; nay, further, that the nations among whom tea and coffee were originally met with, were those whose diet is chiefly vegetable, consequently who consumed a larger quantity of non-nitrogenized food, at least of food which did not contain a due proportion of nitrogen for supplying the wants of the healthy system, and especially for furnishing sufficient for the nitrogenized constituents of bile? Nay, science has further pointed out, and Liebig has shown, that from the relation existing between the azotised vegetable principles, theine, caffeine, (and also theobromine,) and the azotised constituents of bile, that tea and coffee "are, in virtue of their composition, better adapted to this purpose," to supply the biliary azotised principles, "than all other nitrogenised vegetable principles." It is further, singular, that the above is supported by what we might almost call an instinctive habit among many of the poor of our own country who are unable to procure animal—azotised—food, but who will make every effort to procure tea and coffee. The custom is, and is no doubt felt to be, a salutary one, although injury is frequently done by the unnecessary large quantity of tepid liquid consumed. Indeed, if we consider the sugar taken with tea as furnishing the carbon of the bile, and the theine its nitrogenized material, whether the bile be formed in the blood, or in the liver, we here have its essential constituents. Tea and coffee, moreover, are particularly adapted for the use of the sedentary, a class peculiar to civilized life. In these persons, the metamorphoses of the tissues being reduced for want of motion, the amount of azotised material available for the formation of bile is diminished. Persons of sedentary habits are also extremely apt to take an excess of non-azotised food. Tea and coffee being capable of furnishing the proper azotised compound, the use of these substances may promote the conversion of that excess into bile; and accordingly, may favour the combustion of carbonaceous materials, which would otherwise accumulate in the blood and produce languor, lassitude, and oppression. We have here a chemico-vital effect exerted upon the living system by the active principles of tea and coffee, analogous to, but perfectly distinct from, that exerted by alcohol; we have also to consider the effects of these principles upon the nervous system, different but parallel to those of the spirit. Like alcohol, the first effect of tea and coffee is exerted upon the stomach and its nerves, these effects doubtless being modified by the hot liquid in which the articles are generally taken. The first effect is stimulant.

Probably, there is no substance, not strictly medicinal, which exerts so powerful an influence upon the nervous system as tea, especially the green variety, of which many individuals cannot take even the smallest quantity without experiencing the most disagreeable effects; they become faint; the action of the nervous system is disturbed, the hand trembles, the heart palpitates; sometimes gastric spasm is induced, but more generally feeling of raking at the stomach, and of extreme hunger shortly after a full meal; lastly, there is extreme wakefulness. "There are some females upon whom green tea produces nearly the same effect as digitalis; and it has been medicinally employed in the diseases for which that herb has so decidedly obtained a high reputation. Desbois, of Rochfort, has, by the use of it, cured many nervous diseases, which have arisen from accelerated circulation. Dr. Percival had an idea that green tea possessed nearly the same power as does digitalis, of controlling and abating the action of the heart. "It is upon the nervous system that the effects of tea are chiefly manifested; green tea, especially, is distinguished by this property. It is said that a strong solution of it, applied to the sciatic nerve for half an hour, has caused death. Introduced in only a small quantity beneath the abdominal integuments of a frog, it produced complete paralysis of the hind legs, lasting for some hours." Administered as an injection to a dog, it caused a perfect paralysis of the bladder and intestinal sphincters, a partial loss of power in the hind legs, and a total loss in the tail." "A poultice of green tea-leaves, applied over the human stomach, has caused sickness and vomiting; over the abdomen, colicy pains and purgings; over the heart, faintness and irregularity of pulsation; over the kidneys, diuresis." Were it requisite here, many more instances of the poisonous effects of this herb might be cited. True, these are chiefly the results of green tea; but in some, black tea will produce nearly similar symptoms. Where individuals have any tendency to dyspeptic affections, they are very apt to be aggravated by the use of tea, which occasions severe gastralgia; these cases are familiar to every medical man; they are frequently cured, solely by enforcing the disuse of the beverage, which, indeed, ought to be done in all such cases.

Mr. Corfe, in his lectures on the "Physiognomy of Diseases," mentions a case very closely imitating cancer of the stomach, which completely and rapidly recovered as soon as the tea was given up; and in the *Lancet* very many cases are recorded to the same effect. The action of tea, in exciting mental phenomena, is equally remarkable with its influences upon the body. Most students are familiar with its power of clearing the mind, and facilitating its working; many, too, have experienced its baneful effect, in preventing sleep and occasioning mental irritability. At times, however, the disorder of the faculties of the mind, under the influence of strong tea, amounts nearly to insanity. Millingen says of it, "In some it is highly stimulating and exhilarating; in others, its effects are oppression and lowness of spirits; and I have known a person who could never indulge in this beverage without experiencing a disposition to commit suicide."*

Many cases of hypochondriasis are traceable to the inordinate use of tea. Enough has now been said to prove the powerful immediate action exerted by tea upon the constitution and nervous system when taken immoderately, or even in moderation, by people of peculiar idiosyncracy. Generally speaking, however, black tea—green tea ought never to be an article of regular consumption—when taken in moderation, produces effects at once agreeable and beneficial; the gentle stimulation to the stomach certainly assists digestion, especially if the beverage be taken towards the close of the process, or three or four hours after a full meal. Taken along with food, it is at times serviceable; it is thus used by the Tartars to counteract indigestion occasioned by the use of raw flesh. The stimulant properties of tea are not so strongly exhibited when it is taken with a solid meal as when with a small quantity of light food. When taken in excess at any time, or too soon after a full meal, the warm liquid is apt to debilitate the stomach, and to interfere with the regular process of digestion. Notwithstanding, however, the evils resulting from the abuse of tea-drinking by some, or its deleterious effects upon a few peculiarly constituted individuals, there can be no doubt that the salubrity of the infusion to the general mass of the community is established on sufficient testimony to outweigh any argument founded on individual cases.

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* It has been strongly recommended by Dr Edward Smith, to give a strong infusion of tea frequently in cases of sun-stroke, as it stimulates the nervous and respiratory systems, and increases the activity of the skin—all most important desiderata in this disorder.

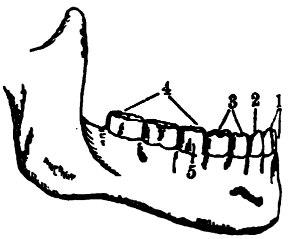
The moderate use of the beverage is, of course, alluded to. In cases where it evidently disagrees, it ought to be given up altogether; and it may be taken as a rule for most, that two cups of moderately strong tea, morning and evening, are sufficient, and not too much for health. If this quantity is exceeded, not only is it apt to cause nervousness, but the amount of warm fluid debilitates the stomach.*

Refer to—*Breakfast—Coffee, Opium, &c.*

TEARS.—The watery saline secretion named the tears, is formed by the "lachrymal gland"—see *Eye*—which is situated in the outer and upper corner of the socket or orbit. The secretion is continually passing over the fore-part of the eye-ball, keeping it clear, bright, and free from dirt, and facilitating the movements of the eyelids, any superfluity of moisture being taken up at the inner angle of the lids, and conveyed into the nose.—See *Eye*. The increased secretion of tears is a remarkable instance of mental influence over the body, still more so, when it is reflected that infants do not shed tears in their crying. It would seem that mere crying from physical causes is not sufficient to cause increased secretion, and that some amount of intelligent mental emotion must be conjoined.

TEETH — are hard substances placed generally at the entrance of the alimentary canal of animals, for the purpose of comminuting the food. True bony teeth are met with only in the higher or vertebrated classes of animals, and in the highest class, the mammalia, to which man himself belongs; they are found to be placed in single rows in each jaw. Even a superficial examination of the teeth of different animals makes evident how specially they are constructed with reference to the habits and food of the being whose purposes they subserve. There are the sharp-edged chisel-like "incisor" teeth of the rabbit or hare; the sharp-pointed, conical "canine" teeth of the dog, and of other carnivora; the broad crushing "molar" or back-teeth of the graminivora and grain-feeding animals. In the case of man, who is calculated to subsist on a mixed diet, we find all the above forms of teeth, but in a modified degree. The teeth of the human adult are thirty-two in number, arranged in two arched rows, containing sixteen in each. The teeth in each of the arches correspond to one another, but those of the upper arch in most jaws overlap the lower. Fig. A represents the teeth of one half of the adult lower jaw. Of these—1—marks the two incisors;—2—is the canine teeth;—3—the two "bicuspid" or two-pointed or false molar teeth; and—4—the true molars, three in number; that is, eight teeth in all, on one side of the one jaw, giving, of course, sixteen for the single jaw, or thirty-two for both upper and lower jaws. In the child, the number of the first temporary, or "milk teeth," is not so great as in the adult, by twelve. There are the four incisor, and two canine teeth in each jaw, but the true molars, fig. A 4—are entirely absent, their place being supplied by four temporary molar teeth, two on each side, which occupy the situation of the biscuspid teeth fig. A 2—in the adult. About the seventh year of age, when the shedding of the first teeth is commencing, but it may be later, the child cuts the first of the true or per-

A



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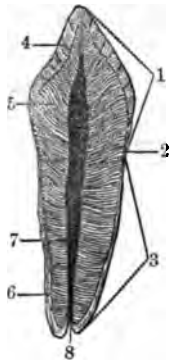
* Numerous cases of distressing indigestion and nervous debility among the poor have been traced to the habitual use of tea *which they boiled*, under the idea that they got a stronger solution. The fact is that boiling dissolves an astringent principle in tea, the use of which is prejudicial to health.

t molars. These teeth appear without
reference to the shedding of the first
eeth, as they do not occupy the site
of the latter, but, so to speak, break
ound for themselves.

y tooth is divided externally into a
fig. B 1—and into a fang or root,—

B

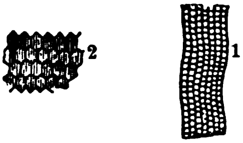


the point where the gum ceases,
th is slightly contracted,—2—and
ich marks the division between the
her portions is called the neck of
th. When a tooth is divided ver-
as shown in the magnified section
ncisor tooth, fig. B*—there is seen
g its exposed portion or crown, the
el,"—4—which, thickest at the supe-
rt, gradually thins off towards the
here it ceases. At this point how-
gins another substance; the "ce-
a" or "crusta petrosa,"—6—which
lly increases in thickness towards
remity of the fang, where it leaves a
tion, through which the vessels and
ass to the interior or pulp cavity—7
h occupies the centre of the tooth.
n this pulp cavity and the enamel
crown, and between it and the outer
seing or cementum on the fang, lies
th bone, dentine or ivory,—5—which
ates the great bulk of the tooth.

ably, no structure in the animal
ot even the eye itself, evinces more
evidence of wise design, that there
e found in a completely developed
tooth, still more when the processes of its development are traced, as they have been, from the first papilla or appearance of preparation for the future structure; these, indeed, are wonderful and beautiful, but how much more wonderful to find that before an infant has yet breathed the air of this world, the preparation is made in its jaws, for the development of its future permanent teeth, not to be made apparent for eight or nine years after, when the enlargement of the bones permits this development and renders it necessary.

The calcareous enamel of the teeth is composed almost entirely of earthy or mineral constituent, the animal matter not constituting more than two per cent. of the whole. It covers the entire exposed portion, or crown of the teeth—fig. B. The enamel is not as might be supposed, a homogeneous structure, but is composed of numbers of minute hexagonal fibres or rods, or according to some, "prismatic cells," as shewn when magnified—fig. C. 1—placed side by side; a transverse section of these fibres, presenting the hexagonal divisions—fig. C. 2.—The diameter of these fibres is said to be about the $\frac{1}{5000}$ of an inch. They are not straight, but as represented, have a wavy appearance; their inner extremities rest in shallow depressions on the surface of the tooth-bone or ivory, their outer ends form the surface of the crown of the tooth. By this arrangement of its structure, the enamel is evidently most perfectly adapted for sustaining the pressure, &c., to which it must be liable, in the process of mastication. The "tooth-bone," "dentine" or ivory, which constitutes the great bulk of the tooth—fig. B—and on which the enamel rests, is composed of numbers of branched tubes, which radiate from the central cavity. Through these tubes, the branches of which intercommunicate in all directions, the fluids of the tooth permeate, moreover, the firmness of their walls, and of the surround-

C



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dd and Bowman's *Physiological Anatomy*.

ing fibrous substance, and the radiating and waved course of the tubes, gives the entire mass of dentine or ivory the greatest possible power of resistance. The cementum, or crusta, which forms the thin bony covering of the fang or root of the tooth—fig. B. 6—resembles ordinary bone in structure. It is the enlargement of this bony crust which is sometimes found upon the fangs of teeth. The pulp—fig. B. 7—contained in the tooth cavity, is largely supplied both with blood vessels, and nerves, which enter at the perforation in the extremity of the fang, 8.

The separate sockets or "alveoli," into which the teeth are so firmly fitted, correspond to the shape and directions of the fangs, to which they are united by a somewhat elastic "periosteum," and by communicating blood vessels.

The bicuspid or false molar teeth, frequently have a fang forked at the extremity, each division being perforated. The true molar teeth have two, three, and sometimes four fangs each.

In infancy, the period of teething, or the coming forward of the first set, the temporary or milk teeth, always occasions some amount of disturbance in the susceptible young constitution.—*See Children.*

The order in which the teeth are successively developed varies considerably; the following average of periods is given by Mr. Erasmus Wilson. The teeth of the lower jaw generally appearing before the corresponding ones of the upper.

TEMPORARY TEETH.

7th	month,	two middle incisors.
9th	„	two lateral incisors.
12th	„	first molars
18th	„	canine.
24th	„	last molars.

PERMANENT TEETH.

6½	year,	first permanent molars.
7th	„	two middle incisors.
8th	„	two lateral incisors.
9th	„	first bicuspids.
10th	„	second bicuspids.
11th, 12th,		canine.
12th, 13th,		second permanent molars.
17th, 21st,		third, or last permanent molars or "wisdom teeth."

The first teething in infancy is always somewhat critical—see *Children*—but even the second is not always free from irritant effects upon the constitution, and epileptic and other attacks have dated from this cause and period.

There are a few instances on record of a third partial teething even in old age.

The carelessness or neglect in the preservation of the teeth, which prevails among all classes, and especially among th orders, can result only from ig of the important purposes they s in the animal economy, and of how their perfection and efficiency are with health; there is no questio the possession of a good set of tee make all the difference between a h prolonged old age, and premature d the powers of life.—See *Digestion.* over, the disorder of the stomach p by the insufficient mastication and minution of the food, which must consequence of deficient teeth, ten more to increase the evil; for sin teeth may, as nails and hair on th be considered as developments fr mucous membrane which lines the di organs, they sympathize with, and from, whatever affects that lining mem consequently, there is no more cause of decay in teeth, than indig and particularly if the saliva becom

There is no question, howeve although chronic indigestion is ver to assist decay in teeth, the proces place much more quickly, from any in some persons, than it does in There certainly is hereditary tende this as in other peculiarities of consti for the members of one family p their teeth sound much longer tha of another, though equal care is be on them. At the same time prope tion to the teeth will do much to p a naturally deficient set, and *vice ver*

The teeth being constantly moi with the saliva, are continually liabl come encrusted with the animal matt earthy salts contained in that fluid, f what is popularly known as the " upon the teeth. This formation accumulate much more rapidly t does in those who neglect their teeth it not partially removed at each m the friction of the food in course of cation; this is seen when persons, a do in fever, lie long without food teeth become at times quite crusted The author met with a strong exa the kind lately in the case of a girl constitution, in whom, from avoiding on one side of the mouth in consequ a tender decayed tooth, an accum of tartar of considerable thickness e covered not only the decayed tooth but those next it, requiring consid force and chiselling to detach. It f in fact, a calcareous case over the Although partly removed by the food mastication, the tartar cannot be so en consequently it tends to accumulate the necks of the teeth at the margin of the gum, and in time drives back, as it were, the gum, exposing the parts of the tooth which are not protected by the hard and resisting enamel, to the action of the influences which speedily induce decay. Besides the tartar, there has been observed to accumulate from neglect, especially between the teeth, a filiform fungoid like growth. In no way is it possible to remove these continually forming incrustations but by the brush, or at least by some substitute for the brush, by which tolerably active friction can be employed. Neither is it well to trust too much to dentifrices, or tooth-powders, the brush and plain water is amply sufficient for most purposes; a small addition of fine white soap is found to facilitate the cleaning of teeth in some cases, but never should rough, or acid tooth-powders be used; they may, it is true, clean the teeth more quickly, but they do this at the expense of the enamel, which in the first instance is gradually worn away mechanically, and in the case of the acid, chemically dissolved. If a tooth-powder is perfectly impalpable, it is difficult to see how it can assist the cleaning of the teeth at all; and is, therefore, just as well dispensed with. When, however, the gums become spongy, and the teeth inclined to loosen, it may be well to use some astringent application for the purpose of strengthening the gums; tincture of camphor dropped into water is commonly used, but—although not fully proved—it has been thought to injure the integrity of the teeth themselves; it is, therefore, as well avoided, especially as a few drops of tincture of myrrh on the tooth-brush is equally efficacious, and is free from suspicion. The powder or tincture of rhatany-root may be used for the same purpose. As a general rule, however, the use of a tolerably firm brush twice a day, or after each meal, and with water alone, is quite sufficient to preserve most teeth in purity and soundness.[*] It is really surprising to what an extent cleaning the teeth is neglected even by persons in respectable stations in life, and among the majority of the lower-classes it seems never to be thought of. Putting comfort, cleanliness, and refinement aside, on the score of health alone the habit ought to be practised, and among all classes ought to be taught to children. There is no doubt that where the food is simple, and health and digestion good, there is much less tendency to the accumulation of tartar about the teeth; but this immunity is certainly not enjoyed by the lower-classes in Britain, who suffer greatly from decayed teeth. It has been thought that the hot food and fluids used by civilized man tends to promote the decay of the teeth, and probably they do, if the habit is acquired, as it is by some, of taking these very hot. The use of the teeth to crack nuts, to bite hard substances, and the like, is apt to chip off the enamel, and thus to expose the tooth to certain decay. Some medicines have an undoubted tendency to injure the teeth, certainly mercury given to affect the gums does so, and this should always be a serious consideration with a medical man in using the drug to this extent, in the case of the young especially. The mineral acids act chemically, by dissolving the enamel; they ought, therefore, always to be sucked through a quill or glass tube, and the mouth rinsed with water afterwards. Prussic acid given medicinally has been thought to injure the teeth; iron medicines discolour them if the teeth are not brushed after the dose. Under article "Grape," the author has noticed a singular effect of the acid of that fruit in dissolving off the enamel. Another cause of decay is the lodgment of particles of food in the interstices between them; these the brush will remove, but the use of tooth-picks of any kind is most injurious.

As the calcareous, almost crystalline, enamel is the great protection of the inner and more easily acted on components of the tooth, its removal quickly gives a tendency to decay, which, once begun, tends to spread, unless means are used to stop it. This is best done by means of the "stopping" process with gold or other material, as practised by dentists. To be thoroughly done, stopping requires considerable care, the removal — scraping out — of the decayed portions of the tooth, &c., it therefore requires to be effected by the dentist, and he should always be resorted to for the purpose, care being taken to ascertain that the stoppage is not—as has occurred—of such a metallic nature as will injure the constitution. As a temporary stopping, which any one may insert for themselves, nothing answers better than a piece of gutta percha, softened in water, and pressed well into the cavity, which it should fill: it will thus often retain its place for months. Care must be taken, however, that this or any other stopping does not press injuriously upon the nerve, otherwise severe suffering may ensue. When, in the course of decay, the cavity of the tooth, which contains the nerve pulp, is opened into, tooth-ache begins; the nerve becomes highly sensitive, probably inflamed, and not only is extreme pain excited by the slightest cause—a crumb lodging in the cavity, or a draught of hot or cold fluid — but the slightest jar upon any portion of the tooth is most acutely felt. The pain of tooth-ache may continue with more or less severity and intermission for a long time, till either the sufferer is driven to the permanent cure of having the tooth extracted, or, as often happens, the pain ceases of itself, or under the use of some application. Undoubtedly, extraction is the only certain cure for tooth-ache, and when a tooth is so utterly decayed that it cannot be stopped, and is of no use, its removal cannot too soon be submitted to; at the same time, it is worth while to suffer a little pain to save a tooth that is likely to do after-service, and that will bear stopping after the irritation of the nerve has subsided or been subdued. The aching of a decayed tooth is very often excited by cold, by disorder of the digestive organs, &c. &c.; when, therefore, the pain commences, the possibility of such causes should be investigated, and if they exist, they should be rectified.—See *Cold — Indigestion, &c.* If, however, after this has been done, the neuralgic irritation still continues, it may be advisable to give quinine, and also opium, as recommended under article "Neuralgia;" counter-irritation, in the form of blister or mustard-plaster behind the ear, being also used. The agonizing ache of the tooth itself requires to be quickly relieved, if possible, independent of the above remedies, which are to remove the tendency. The applications used to cure tooth-ache would make a long list; among the latest, chloroform and creasote are the most useful, especially the latter, the chief objection to which is its disagreeable smell. Strong ammonia is also sometimes used with success; it probably acts partly by neutralizing acid matters within the decaying tooth. The most effectual application which the author has ever used, is composed of creasote and strong solution of ammonia, of each one part, tincture of myrrh two parts. In some cases the ammonia and myrrh is effectual without the creasote. All these liquid applications are best introduced into the decayed tooth by means of a small pellet of cotton wool, soaked in them, and *lightly* laid in the cavity. If pressed in, its mechanical pressure on the nerve may counteract the good effects of the remedy, or even aggravate the pain. If the first use of an application does not relieve, the piece of cotton should be removed, and a fresh charged portion introduced; this is often successful. The applications which are most generally serviceable in tooth-ache, are stimulants, which seem to act by destroying the sensibility of the nerve. This is sometimes more effe tually done by means of a red, or rathe white, hot wire, which destroys the nerv pulp altogether; the momentary pain i severe, but if the operation is well done the tooth is rendered insensible, and con sequently serviceable. Recently this ope ration has been performed in a more elegan and agreeable manner, by means of electri heat. The wire is fitted into the tooth cold, and momentarily heated to incandescence by a galvanic current. The operation requires to be managed by a dentist. It i sometimes difficult to find the opening int the pulp cavity of a tooth when small, no unfrequently it is situated at the neck o the tooth, where both enamel and cemen tum are thinnest.

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[*] A tooth-brush of vulcanized india-rubber has lately been introduced by Messrs Maw, of Aldersgate-street, and is certainly most valuable to all who suffer from tender gums, whilst to many its cleanliness and indestructibility will be a recommendation. It answers best if used with prepared chalk.

The wisdom-teeth, or last molars, are peculiarly susceptible of this species of decay. When the gums are much inflamed in tooth-ache, much relief is sometimes given by lancing them freely around the tooth.

To extract a tooth, being merely a mechanical operation, certainly requires no great amount of knowledge, and is one performed in some villages, still, by the blacksmiths, some of whom, by practice, tact, and strength of arm, perform it very well, though perhaps not so easily as the professed dentist, who uses improved instruments. The fact, however, is sufficient to show, that any one, such as an emigrant, inclined to render himself useful, and perhaps make a little odd money, in an out-of-the-way place, may acquire the art. At the same time, perhaps, few would willingly trust themselves in the hands of an amateur, except from the dire necessity of a fit of tooth-ache; but as that necessity is not an uncommon one, the accomplishment of tooth-drawing may be found not at all a useless one in some situations. The faculty can scarcely be acquired properly, without a few practical lessons, which there can be little difficulty in obtaining, in this country at least. Various instruments are used for the purpose of tooth-drawing; the forceps or pincers for the single, and the key for the double, being the old and most commonly used forms. Some dentists now discard the key, and use forceps only, of varied shape and construction, to suit the different positions of the tooth to be extracted. Probably, an unprofessional person will find the key and the forceps the instruments of the use of which it will be most serviceable to acquire a knowledge, and as this to be sufficient must be practical, all that is requisite here is to add a few memoranda of the proceedings which might escape the memory.

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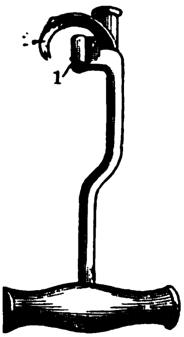


-fig. A—is of the form repre-
ı the handle placed crosswise.
-1—acts as a fulcrum; the claw
l to the neck of the tooth, in-
de, as may be most convenient
and the bolster made to press
gum on the other side. The
patient being fixed by an as-
operation is on the lower jaw,
twisted out by the force of the
the bolster against the gum or
. the upper jaw is dealt with, it
enient to seat the patient on the
, very low stool. The bolster
dded by a piece of lint wrap-
otherwise it bruises the gum
r. It is better with a gum-
arate the gum from the tooth
drawing, otherwise the former

ıgle teeth the forceps are used.
ımewhat in form, and should be
ome professional friend; they
)e so close or sharp as to risk
ooth through. When used, one
e fixed behind, and the other
e tooth, just within the gum
the head being fixed, the tooth
ıight out of its socket by the
ion, accompanied with a slight
ion.
sible in the space of this work
lly into this subject as might
who desire more information,
ular works published upon it
ᵒ price.*
LISM. — See *Intoxication* —

—See *Passion.*

AMENT—is a term which took
the earlier stages of medical science, when the constitution of the body was supposed to depend upon the proportional mixture or "tempering" of the four principal fluids or humours—the blood, the phlegm or lymph, the yellow, and the black bile. Hence, corresponding with these, there was the "sanguine," or blood temperament, the "phlegmatic" or "lymphatic," the "bilious," and the "atrabilious" or "melancholic." As these distinctions are applicable to certain recognised types of constitution, they are still retained, with the addition of the "nervous" temperament. The sanguine temperament is usually distinguished by the ruddy complexion, blue eyes, and brown hair, and generally full large habit of body, with vigorous performance of the functions of life. The phlegmatic, generally now called lymphatic temperament, is almost the reverse of the first. The functions of life are usually more feebly performed, probably owing to the deficient quality of the blood, the skin is pale, the hair light in colour. The choleric or bilious temperament is characterized by black often curling hair and beard, the latter being generally thick and strong; the eyes dark, the complexion ruddy though dark, and the circulation good. In the melancholic temperament the hair is black but straight, the skin is dark, but wants the red tinge of the true bilious; the circulation and the functions are slow and languid. The above temperaments are not unfrequently met with strongly defined in individuals, but in the majority they are mixed up one with another.

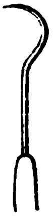
Refer to—*Complexion—Diathesis.*

TEMPERANCE.—See *Stimulants.*

TEMPORAL—connected with the temples.

TENACULUM—is a slender hook—fig. A—to which a handle is attached, used by surgeons for laying hold of and pulling forward a bleeding artery, so as to permit of its being secured. The instrument may

A



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ing is a tooth-powder which might be useful to persons with weak spongy gums:—"Orris
vdered cinchona bark, 2 oz.; powdered Castile soap, 1 oz.; loaf sugar, 4 oz.; gum myrrh
ı.; prepared chalk, 18 oz." Rub well together.

be made to shut up into a handle or not, as convenient. It might be found useful in emigrant life.—See *Artery—Instruments.*

TENDERNESS — on pressure of any portion of the body is a symptom which is always much regarded in the investigation of disease, seeing that it is in most instances, if it is not in all, indicative of irritation or acute inflammation. In making pressure, however, to ascertain the existence of tenderness, care must be taken, if possible, to bear upon the part examined with a sufficiently extended surface of the hand, and not to press too quickly or forcibly, otherwise the mere roughness of the examination may cause pain, and give the appearance of tenderness.

TENDO ACHILLES—is the remarkably strong tendon which connects the muscles of the calf of the leg with the heel. Any one may feel it in his own person. It is chiefly to be noticed here, on account of the not very uncommon accident of rupture, to which it is liable, particularly in heavy individuals. Perhaps, in making some unusual exertion, there is felt the sensation as of a violent blow upon the tendon, and if the person does not fall to the ground, he at once finds the power over the foot is lost. If the place is examined, the space left between the ruptured ends of the tendon may be distinctly felt. It is, of course, important that the injury to a part on which locomotion so greatly depends, should be efficiently repaired; the case, therefore, should always, when possible, be treated by a medical man. The accident, however, is one liable to happen in out of the way places; with a little care, its treatment may be efficiently managed even by an unprofessional person, at all events till skilled assistance is obtained. The principle of treatment is, by relaxing the muscles of the calf, to permit the ruptured ends of the tendon to approach one another. To effect this, the palpable proceeding is to bend the knee and the foot, as represented—fig. A. To retain the position, it is sufficient to attach a strong cord or tape—1—to the heel of a slipper placed upon the foot; to attach a corresponding cord—2—to a band of some stout material—3—stout calico will do, put round the lower part of the thigh; and this being done, to tie the two cords together, so as to preserve the requisite amount of flexure, which must be kept up for at least four or five weeks, at the end of which period, gentle and gradual extension of the heel may be tried, but no attempt at walking should be made for a considerably longer period. Ultimately, if the case is properly treated, perfect recovery takes place. For some time after the above accident, it is advisable for the person to wear a high-heeled, laced boot. Some apply a light bandage in addition to the apparatus described above.

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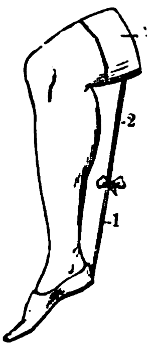

Refer to—*Wounds.*

TENDONS — popularly called "the guides," are the strong fibrous extensions by means of which the muscles are attached to the bones. All tendons are liable to be divided by wound or by rupture; in these cases the nature of the accident is indicated by the loss of power over the limb or members. The treatment required is similar in principle to that for ruptured Achilles tendon, the relaxation of all the muscles which are connected with the injured part, for a sufficient period to permit union.

Refer to—*Ganglion.*

TENESMUS — is the sensation in the rectum—see *Rectum*—which causes involuntary straining, or effort to empty the bowels. It is a frequent symptom in diarrhœa, dysentery, &c.

Refer to—*Diarrhœa—Dysentery—Stool.*

TENT.—A piece of lint, sponge, or other material used for dilating openings, or for keeping open wounds.

*TERTIAN.—See *Ague.*

TESTICLES — the male organs, are liable to various affections. Inflammation is accompanied with severe pain and swelling; it requires the treatment of inflammation generally; leeching, fomentation, poultices, calomel and Dover's powder, and aperients, with perfect rest in bed and low diet. Enlargement of the veins—varicocele—accumulation of fluid—see *Hydrocele*—and various chronic enlargements and diseases, occur in connexion with these glands, but, for all, a medical man's attendance is abso-

* TENTATIVE TREATMENT.—Treatment that is, so to speak, *tried*, in the hope that benefit may result.

ly necessary. In the meantime, if the
ptoms are urgent and painful, perfect
in bed, avoidance of all stimuli, and
ntion to the state of the bowels are the
t measures. If circumstances prevent
olute rest, support should be given by a
-truss, or by some such contrivance as
t recommended in article "Prolapsus."

ETANUS—Lock-Jaw.—See *Lock-jaw.*

ETTER.—A term applied to various
ns of skin disease.—See *Skin, Diseases of.*

HEINE.—The active principle of tea.
ee *Tea.*

HEOBROMINE.—The active principle
cocoa, resembling theine and caffeine in
nposition.—See *Cocoa.*

HERAPEUTICS—is the art and science
the application of remedies for the cure
disease.—See *Medicine*, and *Medicine,*
actice of.

THERMOMETER, or Measurer of
at.—The principle upon which this in-
ument depends, is the expansion or con-
ction of a fluid according to the increase
diminution of sensible heat. The fluid
ed is sometimes spirit, but more generally
is mercury, on account of the equable
nner in which this fluid metal alters its
lume with change of temperature. For
purposes of the measurement of heat, a
rmometer is constructed by inclosing
mercury—or spirit—in a perfectly closed
"hermetically sealed" glass tube, with a
lb or expansion at one end; to this tube a
ularly marked or graduated scale is at-
hed, which indicates the changes under-
ne by the mercury within the tube, in
ordance with the changes in tempera-
e. These scales may be, and are, dif-
ently graduated; it is here sufficient to
tice the scale of "Fahrenheit," which
universally used in this country. In
Fahrenheit scale, or thermometer, the
o or starting point, or 0°, is placed 32
grees below the temperature at which
ter freezes, consequently the freezing
nt of water is placed at 32°. Between
s and the boiling point of water, there
180°, the latter, consequently, is marked
the scale 212°. Between these points,
re are other temperatures recognised,
d usually marked on most thermometers,
y are "temperate" at 55°; "summer-
at" about 76°; animal or "blood-heat,"
; and "fever-heat," about 109°. A
rmometer is an instrument which ought
w—considering the low price—to be
nd in every house. For practical pur-
es, such as ascertaining the temperature
baths, &c., it is best to have the tube
ed to a metallic scale.*

Refer to—*Bath—Bed-room, &c.*

THIGH.—The portion of the body which extends from the hip to the knee, is composed principally of a mass of fleshy powerful muscles. The fold—the groin—at the junction of the thigh with the trunk, is one of the most important regions of the body in a surgical point of view, for here is the most usual seat of rupture—see *Rupture*—and at this point, towards the lower end, the large vessels which pass to and from the lower extremity, lie very superficially. Wounds of the groin are, therefore, particularly dangerous, and if the main artery be perforated, life is placed in the most immediate peril.—See *Artery.* A little below the groin, the vessel becomes more deeply imbedded in the muscles, and ultimately passes round the inner side of the thigh-bone to reach the ham. The thigh-bones—see *Skeleton*, fig. A, B, 12—are the longest bones of the skeleton; from their ball and socket-joint at the hip, they incline inwards towards one another at the knee. This inclination is more especially marked in the female, in consequence of the greater width of the pelvic bones.

Refer to—*Hip—Knee—Pelvis—Fractures, &c.*

THIRST—See *Diluents.*

THORAX.—The chest—See *Chest.*

THORN-APPLE or Datura Stramonium.—Thorn-apple is naturalized in Britain. It is an annual plant, and grows about four feet in height. The leaves—fig. A—are much toothed, of a light green, and the flowers white and trumpet-shaped. The fruit, which is the most conspicuous

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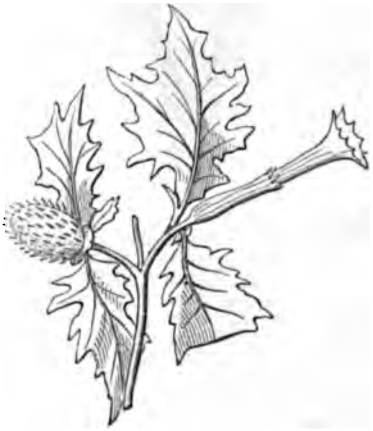

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* In fevers and inflammatory affections generally, the thermometer is being more and more used every
, and promises to be of great value as a means of observing disease.

part of the plant, is about the size of a walnut, and is covered with prickles or thorns, whence the name. In the shops, the leaves, stems, and capsules or fruit, with the seeds, are sold, cut up together, for smoking, the mode in which the drug is principally used in this country. It relieves the paroxysms of asthma, and other affections of the breathing dependent upon spasmodic causes; it is also now made up in the form of cigars for the same purpose, but, being a somewhat powerful narcotic, in either way must be used with caution. At first, not more than ten grains weight of the leaves should be smoked, the dose being gradually increased to thrice that quantity.

THREAD-WORM.—See *Worms.*

THROAT. — The throat comprehends the parts situated at the back of the mouth, and includes the uvula and soft palate, with its arches, and the tonsils; also the pharynx or funnel-like muscular expansion at the top of the gullet—fig. A. The appearance of the throat, looking through the mouth, any one may verify in his own person; in the illustration* the view is supposed to be from behind, the pharynx or upper portion of the gullet being laid open. The openings of the nostrils are seen—fig. A, 1. At—2—is the uvula with the arches of the soft palate on each side; 3—is the back part of the tongue, just behind which is situated—4—the glottis or opening of the windpipe. These
attached above to the skull—7. A
represented a portion of the gul
not laid open, and at—6—the tub
trachea or windpipe, which lies in
the gullet.—See *Neck.* A little
ration of the figure will enable an
get a tolerable clear idea of the p
their relative positions, of this n
portant region of the body. For
information the reader is referred t
Cut-Throat—Gullet, which includ
ing — *Mouth* — *Neck* — *Palates* — *T*
Tonsils — *Sore Throat* — *Digestion,*
Larynx in article *Lungs.*†

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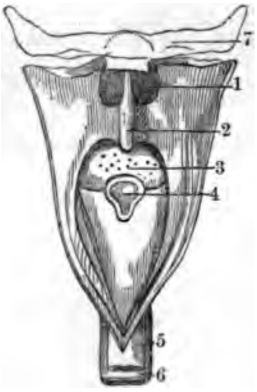

THROMBUS.—A small tumou
by the escape of blood into the su
ing tissues, after a vein has been
as it is in bleeding from the arm.

THRUSH.—See *Aphtha.*

THYMUS GLAND.—A glandu
situated behind the upper portio
breast-bone; it is larger at birth,
ing the first year of infancy, than
future period of life.

TIC DOULOUREUX.—See *N*

TIGHT LACING.—See *Educat*

TINCTURES are solutions of m
substances in alcoholic spirit, eith
tified" or "proof." Rectified spiri
consists of eight parts of alcohol t
water, ought to have a specific gr
838. Proof spirit, which consists
parts of rectified spirit to three o
ought to have a specific gravity
The above different strengths are e
according to the solubility in spirit
active principles of the drug from
the tincture is made. Some drug
as camphor, are entirely dissolved
tified spirit. The general directi
making tinctures are, that the drug,
in solid substance, should be divid
small fragments, or into coarse
powder, as the case may be; it is th
macerated in the spirit in a close
for a certain period—generally fro
days to a fortnight, and after that
through a cloth, or filtered through
or both.—See *Filter.* During the
tion, the bottle is to be frequently
and when the straining takes pl
solid is to be freed from the
thoroughly as possible, by pressu
cloth. This may be, and is done b
but much more effectually by mea
"tincture press" for the purpose.
some substances, such as squill, ca
at all properly exhausted without th
a press. Within the last few ye
system of preparing tinctures by
lation," has been adopted, especi

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*For this figure and some others in this work the author is indebted to the valuable *Manuals* of Mr. Churchill.

† LARYNGOSCOPE.—See Appendix for an account of this interesting new instrument for exami
the throat.

Edinburgh. It is a very excellent method, but requires considerable practice to carry out well.

As medical preparations, tinctures possess many special advantages, not the least being their keeping properties; moreover, the form of tincture often facilitates the use of a drug in a state of solubility, and therefore of activity, which could not be attained in any other way. Except in those cases, when the stimulant action of the spirit is desirable, tinctures are best adapted as vehicles for medicines which act in small doses; if the action required from medicine be not stimulant, or rather the reverse, the form of tincture cannot be employed with advantage, that is, if such a dose is required that the stimulant properties of the spirit will be sensibly manifested. For instance, although rhubarb is an aperient medicine, which may safely be given alone, even when fever exists, it would be very injurious under such circumstances to give it for its aperient action in the form of tincture, in which case the dose must be from half-an-ounce to an ounce or more. Even in the case of the comparatively mild antimonial-wine, the author has frequently had to point out the injury which may result from dosing children,—suffering from inflammatory attacks, or head affection—with this preparation, in quantity certainly sufficient to injure. Of course, when tinctures, such as those of rhubarb, ginger, orange-peel, &c., &c., are avowedly stimulant, and given for stimulant purposes, the presence of the spirit is rather an assistance than otherwise, but the rule should be borne in mind, that unless stimulant action is required or at least admissible, a *medicine ought never to be given in tincture, if the dose which must be administered, involves an amount of spirit which will be felt by the system.*

The list of tinctures is a very long one; the following will be found most useful for domestic use:—

Tincture of Arnica—Calumba—Camphor—Cardamoms, compound—Catechu—Ginger—Henbane—Iron Muriate, or Tincture of Steel—Lavender compound—Myrrh—Opium, or Laudanum—Opium compound, or Paregoric[*] Orange-Peel—Rhubarb compound—Squill.

To the individual articles the reader is referred: in a few, directions for preparing the tincture are given; but, generally speaking, it is both more convenient and economical for domestic purposes, to purchase the tinctures ready prepared.

TOAD.—The poisonous properties of this reptile have at times been doubted, but it seems well ascertained, that the follicles of the skin do contain an extremely acrid fluid, capable of acting on the body like the poison of the wasp, or of snakes.—See *Wounds Poisoned—Stings.*

TOASTED BREAD—if not cut too thick, and if toasted slowly, is probably somewhat more digestible than simple bread—it is more thoroughly cooked. Toast when soaked with melted butter, is one of the most unwholesome and irritating articles of diet an invalid can take.

TOAST-WATER.—See *Cookery.*

TOBACCO.—This article, a luxury, a drug, or a poison, is the leaf of the *Nicotiana Tabacum*, a native of America, both Northern and Southern, but now cultivated extensively throughout the world, and even capable of being so in the climate of Britain. The leaf is large and oval shaped. Very many kinds of tobacco are met with; the Virginia, which is one of the strongest, is used in medical practice in the form of infusion, but is no remedy for domestic employment. Tobacco, however, requires consideration on account of its too widely extended use, as a stimulant or sedative, as the case may be, by so many individuals in every quarter of the globe. The effects of tobacco upon the human system, vary according to the mode in which it is taken into the body. Applied locally, as in the familiar form of snuff, it acts as a powerful irritant; taken into the stomach, or injected into the bowels—as it sometimes is by medical men—in the form of infusion, it depresses powerfully the action of the heart, causing fluttering, and a sense of sinking about that vital organ, with deadly faintness, and a tendency to relaxation of the bowels, and if the dose be large, death. Taken into the system by the lungs, in the form of vapour, as it is in smoking, its narcotic, rather than its sedative action is exhibited; it acts upon the brain, causing giddiness, inclination to vomit, &c., and at the same time it depresses. The effects of tobacco, especially as it is usually employed, vary of course according to the strength and nature of the variety used, and also according to the *original constitution*, and acquired habits of the individual. Few, perhaps, if any, there are, who on first commencing the use of tobacco, escape unpleasant effects from its narcotic and sedative properties, and some individuals never lose their susceptibility to be affected thereby, others become so far habituated to the use of the drug, that these effects are not developed, and others seem to become capable of deriving peculiar restorative influences from its use, experiencing, especially under conditions of exhaustion or irritability, a mixture of stimulant and sedative action which is described as peculiarly grateful.

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[*] Now called tincture of camphor with opium.

A drug which is capable of acting so powerfully upon the system as tobacco, cannot, certainly, be habitually made use of, without its influencing the functions of the body more or less; much more, probably, in some than in others, but to a considerable extent in all. Opinions vary greatly as to the actual influence which tobacco, when habitually used, exerts upon the constitution; this may perhaps be accounted for by the fact, that some from whom the opinions have proceeded, have themselves been lovers of the "weed," and naturally prejudiced in its favour; few, however, are found to defend it as entirely innocuous, and medical men generally are agreed, that in some constitutions at least, it is highly injurious. Upon those of the melancholic temperament, it seems to exert peculiarly injurious effects.

When the habit of snuffing causes injury, it is more usually to the digestive organs, and in some persons it certainly gives rise to dyspepsia; indeed, according to Dr. Prout, it may occasion malignant disease of the stomach and liver. Chewing tobacco acts as an excitant upon the salivary glands; if the saliva is swallowed, the narcotic properties of the drug are called into action.

The most obvious injury which is apt to result from smoking, more or less, according to the extent in which it is indulged, is disorder and irritation of the digestive organs, frequently accompanied with depression of spirits, and at times with extreme nervous irritability, the latter being more especially manifested, in an inveterate smoker, if, from illness or any cause, his habitual indulgence is interfered with. Very recently, the author saw this well exemplified in the case of a strong countryman, a constant smoker, but otherwise not intemperate. He was attacked with fever; in the course of a few days, in consequence, apparently, of the interrupted use of the tobacco—for by no other reason could they be accounted for—nervous symptoms set in with extreme violence, threatening a speedy fatal termination, and requiring the continual use of opium to keep them in any way under control. In many persons addicted to smoking, especially in those who naturally possess the "melancholic" complexion, the skin seems to acquire a darker, and somewhat of a greenish hue. According to Dr. Prout, a tendency to urinary disorder—oxalic acid—is excited. The local injury caused by tobacco-smoking is well ascertained; the bad effects, doubtless, are partly due to the heat of the proce Under article "Lip," the occurrence cancer, in those who habitually smoke fro a short pipe, was noticed; the injury to t teeth from smoking, and especially th discolouration, is notorious, and, furthe we have the valuable authority of D Green, of New York, to prove, that disea of the throat and air passages is apt to follo indulgence in this useless petty vice. remarks, "as an exciting cause, the use tobacco, in my experience, has proved powerful agent in the production of follicul disease of the throat. Acting as a stimulan directly and constantly upon the mucou follicles of the fauces and throat, and great increasing, as it does, the secretion of the glands, its employment, as we should con clude, *à priori*, must have a direct tendenc to develop the disease, especially if predisposition to the affection exists; henc it has occurred to me, to notice that of great number of cases of throat-evil, whic during the last year or two have come unde my observation, a large proportion of then have taken place in individuals who ha been, or were at the time, in the habitua use of tobacco. My attention has bee called more particularly to this subject, fro having noticed, several years ago, som observations on the use of tobacco, i laryngeal and bronchial affections, by a eminent surgeon of this city. After havin alluded to the almost universal use o tobacco in the countries of northern Europe he observes, 'In one very fatal and distressing form of disease, to wit, laryngeal phthisis and bronchitis, among public speakers, the fact is very clearly established, that the moderate habit of smoking, by the drain it accomplishes, and its anodyne qualities, has been eminently useful, at least as a preventive of that peculiar malady so frequent in the United States, especially among the clergy.' From this opinion of my distinguished countryman and friend, I am compelled to differ entirely, by the statistical facts which I have obtained on this subject. Not only has the use of tobacco, in any and all its forms, proved to my experience an exciting cause of laryngeal disease, but where its employment has been persisted in during the treatment of any case, I have found it impossible to restore such to perfect health."

Enough, perhaps, has now been said to convince, that, although the use of tobacco may be indulged in by some, perhaps by many, and to a considerable extent, without very evident injury, there is a large proportion of constitutions to which it is almost a direct poison, sapping the whole foundations of health. The wide extension of the use of tobacco by man since its introduction from the "new world," in the middle of the sixteenth century, is one of the most singular facts of human history; for it is to all, perhaps, at first, a nauseous, acrid, disagreeable drug, which causes uncomfortable sensations in whatever form it is used. Pity it is, it should ever prove otherwise, and that men should continue to poison themselves, and render their neighbours uncomfortable, by indulgence in so hurtful a custom.

The objections to smoking tobacco as a mere habit, do not of course extend to its employment as a remedy in disease, particularly of an asthmatic character, in which some persons derive the greatest benefit from its moderate use.

In any case, in which the use of tobacco has produced the symptoms described at the commencement of this article in alarming degree, general treatment, somewhat similar to that pointed out under article "Belladonna," may be employed.

TOES.—See *Bunion—Corn—Fracture, &c.*

TOLU.—See *Balsam.*

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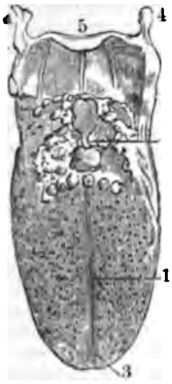

TONGUE.—The organ of speech and taste—fig. A—is composed of muscular fibres running through it in different directions, mingled with a considerable amount of cellular and fatty matter, it is abundantly supplied with vessels and nerves. The tongue is divided in the centre by a depressed line, the "raphé"—Fig. A, 3. It is covered by a dense mucous membrane, continuous with that of the mouth, on which are numerous "papillæ," small towards the tip, but becoming much enlarged—fig. A, 2—towards the base of the tongue. At the tip, underneath, the tongue, as any may see in their own person, is confined by a bridle or tie, or "frænum;" at its root, the tongue is connected with a curved bone, the "hyoid," the extremities of which are represented—4, 4;—between these at the base of the tongue is the "epiglottis"—5. See *Throat—Larynx, &c.*

It is superfluous here to dwell upon the well-known facility of motion and acute sensation by which the tongue is enabled to perform its well-known functions of speech—see *Speech.* Taste may be regarded as similar in kind to the sense of touch, but as more exalted in degree: some amount of solubility in the substance placed in the mouth, appears requisite for its development. Taste, like other sensations, is liable to alteration and perversion in disordered states of the system.

In a medical point of view, the tongue has to be regarded both with reference to its own disorders, and to the indications it affords of disorder in other parts of the system. The tongue is liable to inflammation, although cases of it are rare. When it occurs, the most prominent symptom in addition to the constitutional affection, is the enormous swelling, which causes the organ to protrude from the mouth, and at the same time threatens suffocation; it is, therefore, a very serious affection, and one which requires the immediate attention of a medical man. The remedial measure which gives most relief, is to make two free longitudinal incisions down each side of the tongue; these, of course, admit of copious bleeding, but as the tongue diminishes in size, the cuts and the flow of blood also diminish. The remedy is one which might be practised by an unprofessional person in a case of *urgent necessity;* at least it would be better to do it, even at some risk, than to permit an individual to die of suffocation, whilst medical assistance was being procured. Ulceration of the tongue may occur as a symptom of digestive disorder, as a consequence of mercurial salivation, or from local causes, such as the presence of decayed teeth, especially with ragged or sharp edges.—See *Aphtha—Indigestion—Mercury, &c.* Of course, when teeth stumps are the exciting cause, they should at once be removed. In any cases of ulceration, the local treatment recommended under "Aphtha" may be pursued with advantage.

Cancer of the tongue is one of the most distressing maladies to which humanity is liable; it may in some cases be removed with advantage by operation; at all events, any persistent sore upon the organ should be submitted, *without delay*, to the examination of a medical man.* The disease is most frequent in women. Tongue-tied.—See *Children—Speech*.

As all are aware, the condition and appearance of the tongue are indications almost always consulted by a medical man in investigating a case of disease, and most valuable guides they are at times, when experience, observation, &c., have given the power of reading them aright. When the appearances of the tongue, however, are admitted as evidence, consideration must always be given to the natural state of the organ in the individual, for some never have a clean tongue, whilst in others it scarcely becomes furred, even when considerable disorder is going on in the system. In chronic disorders, especially of the digestive organs, the most valuable indications are often afforded by the tongue, immediately after the night's sleep, before food has been taken. Persons who sleep with their mouths open, generally have a dry tongue in consequence, but in most persons, in health, the mouth should be pleasantly moist on awakening in the morning; if it is the reverse, if the tongue is dry, or clammy, or viscid, and covered with fur, there is usually disorder of the digestive organs, permanent or temporary, from some indiscretion in food, and especially in the use of stimulants. In feverish conditions of the system generally, the tongue is liable to become dry. The appearance of the fur on the tongue varies greatly; it may be thick and dirty-white, as it is in stomach and febrile disorders, and especially in sore-throat; it may be a thin creamy-looking white, as in inflammatory disease within the abdomen; or it may be yellow, as in biliary disorder. It may be patchy, as in scarlatina; or, the centre and sides of the tongue being preternaturally red, as in some forms of intestinal irritation, may contrast with the white fur in other parts. Further, the tongue may be morbidly clean and red also in intestinal irritation and in hemorrhage; in the former case, perhaps, feeling sore as if scalded; or the papillæ may be elongated as in scarlatina. Again, partaking of the general anæmic condition of the system, the tongue may be pale, when it is also usually broad and flat, indicating general want of tone and flaccidity of fibre. The motions of the tongue, moreover, when it is protruded, give a clue to the state of the nervous system especially; thus, in paralysis, it is drawn to one side; in delirium tremens and nervous affections, it is tremulous; in the low stages of fever it perhaps cannot be protruded at all.

Such are a few indications afforded by the tongue. As the appearances in each particular disease are adverted to under the individual articles, it is unnecessary to pursue the subject here.

TONICS—are remedies which improve the health, muscular tone, or vigour of the system; many medicines, properly so called, possess this power, and are therefore classed as tonics; but other means of health, both mental and physical, are included in the category.

When an individual is in good health the muscular fibre throughout the body, both voluntary and involuntary, possesses a certain amount of tone, or "tonicity," the flesh feels firm, and the actions performed in obedience to the will are effected regularly and decidedly. When, on the other hand, the health becomes impaired, the muscles and fibres generally become "flabby and incapable of continued exertion, but are sometimes irritable, with the tremulousness of debility." These changes in tone are most strikingly manifested in children, in whom they take place with great rapidity; every mother and nurse is practically aware of the fact, and judges greatly—and rightly—of the health of her young charges, by the firmness of the flesh. The connexion between a state of proper tone or the reverse, with the actual physical condition of the muscular fibre, may be "demonstrated by detaching a muscle from the bodies of two animals in these opposite conditions, and ascertaining its strength by appending weights to it; the muscle taken from the healthy animal, or that in a state of tone, will sustain a much greater weight than that which is in the opposite state." Tonics, therefore, are remedies which tend to correct the want of the tone above described, by exciting the reverse or tonic condition. In this way food of particular kinds may be regarded as tonic. The "condition" of the horse, as all know, is a state in which the muscular power and endurance is augmented to a high pitch, by means of the stimulant power of dry corn food, in contrast to the comparatively weak muscular tone which can be obtained from green food.

Indeed, if the word tonic be taken in its widest sense, it would include a vast number of agents; medically, however, it is used more restrictedly.

The medicinal tonics may be classed as—

Tonics which act indirectly, by first influencing the stomach, and increasing its digestive powers.

Tonics which act directly, by passing into, and exerting their influence through the blood.

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* Excision of the whole tongue for cancer is an operation which has been several times performed, although it is still an unsettled question among surgeons whether or not it is justifiable. M. Maisonneuve, of Paris, has destroyed the organ successfully by inserting into its substance "fleches caustiques," or pieces of hardened caustic paste, which become dissolved, and the tongue is removed, after some days, as a charred *mass.*

The first, or the indirect or stomach tonics, are chiefly the vegetable bitters; of these the most important, at least in a domestic point of view, are—

Buckbean.
Calumba
Chamomile.
Cinchona Bark.
Gentian.
Quassia.
Salicine.

The second, or direct tonics, include
Iron in its various preparations, and
The Mineral Acids;
to which, perhaps, may be added the vegetable acids.

The non-medicinal tonics are—
Cold in its various forms and applications,
Exercise, and
Mental emotions of a pleasing and stimulating character.

From the above, it may be seen that the action of a tonic is of a stimulant or excitant character; it is, however, distinguished by its permanency, in contradistinction to the transient action of stimulants proper. In order, therefore, to insure the proper action of a tonic, it is requisite to administer it in small doses—which do not cause appreciable stimulation—but at short intervals, once, twice, or three times, according to circumstances, in the twenty-four hours. At the same time, there is a limit to the use of tonics; some, such as iron, if too long continued, are apt to occasion uncomfortable sensations in the head and elsewhere, and bitter tonics, if given regularly for a length of time, at last tend rather to weaken than to strengthen the digestive powers. On this account, it is to be feared, that the now fashionable "bitter beer," although a most excellent beverage and tonic in some states of the system, may, if taken *too continuously*, tend rather to mischief than benefit. As the employment of tonics in different affections and states of the body is entered into in the individual articles, it is unnecessary to pursue the subject further here.—Refer to *Excitants*.

TONSILS—are the almond-shaped bodies situated on each side of the "fauces,"—see *Throat*—and between the folds or "pillars" of the soft palate—see *Palate*.—They are glands which secrete a mucous fluid.

The tonsils are liable to inflammation, constituting "sore-throat," or quinsy—see *Sore-throat*.—They may also be the seat of ulcerations, and often become enlarged. In the former case — ulceration — astringent gargles may be used, and any disorder of the general health attended to. Enlargement of the tonsils is a very common affection, particularly in scrofulous constitutions, and may come on very early in life. When considerable, it may occasion some difficulty in swallowing, and always gives rise to thickness of speech; the subjects of it, too, are more than usually subject to attacks of sore-throat, or quinsy. When the enlargement is great, and causes much inconvenience, it is remedied by the simple, and not very painful, operation of slicing off the most prominent portion of each gland; this of course must be done by a surgeon.* When, however, the operation is not required, or is objected to, much may be done to reduce the size of the glands, by the persevering use of astringent gargles—see *Gargles*—and by attention to any deficiency, as want of tone, in the general health. —See *Scrofula—Sore-throat—Debility, &c.*

TOOTH-ACHE.—See *Teeth.*

TORMENTIL, or TORMENTILLA OFFICINALIS—is a plant native to Britain, and common on moor-ground or hill pastures. It bears a small yellow flower, with four, rarely five, petals, and the stems are straggling. The root of the tormentil is so powerfully astringent, that it is used in various places for tanning, and the same property gives it active remedial powers, which have been, perhaps, too much overlooked. There is no reason why tormentil should not be used in place of more expensive and farther fetched astringents. The root, which is the part used, is short, and thick for the size of the plant; dark brown externally, and reddish within. When powdered, it is given in from half drachm to drachm doses. The decoction is made by boiling two ounces of the bruised root in thirty ounces of water, till it is reduced one-third, and straining. The dose of the decoction is an ounce and half. It may also be used as an astringent gargle or lotion.

TORPOR.—See *Debility, &c.*

TORQUAY — in Devonshire, so well known as a winter residence for consumptive and other invalids, is drier and more free from fogs than other parts of the south coast district. It "is well sheltered from the north-west, and is in great measure protected from the north-east wind, the great evil of our spring climate." The protection from winds, and the south-eastern exposure, are considered the great advantages which Torquay offers to invalids.†

TOTAL-ABSTINENCE. — See *Stimulants.*

TOUS-LES-MOIS. — A substitute for arrow-root, now imported into this country from the West Indies, where it is said to be equally esteemed with the latter for dietetic purposes. The starch granules—see *Fecula* —are considerably larger than those of arrow-root.

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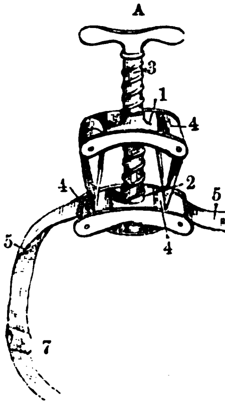
* For those who object to the use of the knife, there is a special instrument by which caustic is safely and efficiently applied to diminish the enlarged tonsils, but it is doubtful whether the amount of pain is less than by cutting.

† See Appendix.—Health Resorts.

TOURNIQUET—from the French, to turn, is an instrument—fig. A—used by surgeons to stop the flow of blood, in a limb, during operations, or after accidents. For the latter purpose, the tourniquet might be found of great service in out-of-the-way places, and might well form an addition to the outfit of the emigrant. The instrument consists, essentially, of an upper and lower plate—1 and 2—which can be separated from each other by means of a strong screw—3. Connected with the plates are rollers—4, 4—and through these rollers is run a strong band of webbing or other material—5—with a buckle—6—at one end, and a moveable pad—7. When the tourniquet is applied, the band—5—is buckled round the limb, and the pad—7—is so adjusted as to press upon the course of the main vessel.—See *Artery*. A moment's consideration will make it evident how a turn of the screw—5—will, by shortening or lengthening the band round the limb, either tighten or relax the pressure exerted by the pad—7—and so control the flow of blood through any vessel over which the latter may be placed. The size of the pad may of course be increased if desirable.



The above remarks will probably make evident the invaluable assistance which may be derived from the tourniquet, in cases of wound or accident; as, however, the instrument may not be always forthcoming, it is to be borne in mind, that its principle of application is pressure on the course of a bleeding vessel, by means of a pad, secured by a band round the limb, which can be tightened or relaxed at pleasure, and that those effects may be brought to bear by means of a pad of the first convenient material at hand—a folded stocking will do—a pocket-handkerchief tied round the limb, and a short stick to tighten the latter by twisting.—Refer to *Artery*, *Arterial Hemorrhage*.

[*]**TOWN.**—See *Houses*, *Life*, and the various articles referred to under *Sanitary*.

TOXICOLOGY.—The study of poisons. See *Poisons*.

TRACHEA.—The windpipe.—See *Lungs*.

TRAGACANTH GUM.—See *Gum*.

TRAINING—is a system which has been practised, both in ancient and modern times, for bringing the animal body up to as high a pitch of health, tone, and muscular power, as possible. If the ulterior purposes for which training is practised in these days are neither desirable nor elevated, the system itself, and the effects of it, are worthy of attention as bearing upon the subject of health and development. Of course, those in whom great muscular power is desired as the result of training, must possess at first some amount of constitutional vigour, good assimilative powers, and be free from disease, or even disorder of a temporary nature; if the latter should exist, it must be removed by medicine or otherwise.

The body being in good health, the object in training must be to get as much food as possible, containing "albuminous principles," well assimilated—see *Food*—that is to say, although saccharine and vegetable substances must be taken in sufficient, though small, proportion to maintain health, it is upon the animal muscular fibre, that of beef or mutton especially, and also upon the dry farinacea, such as bread, on which reliance must be placed to supply the albuminous or plastic elements of muscular development and power. Animal food, therefore—beef and mutton especially, as being most easily digested—must be freely allowed, and must, moreover, be well digested. In order to insure proper assimilation and health, coincident with the consumption of a large allowance of animal food, abundant exercise is absolutely requisite. This, it is true, must exhaust a greater amount of muscular tissue than if the individual kept at rest; but, by the stimulus it imparts to all the functions, and to those of digestion and circulation in particular, it seems to confer the power of assimilating strong nourishment in greater proportion than is requisite to repair the loss by the waste arising from increased muscular movement. Thus, there are the two first principles of training, the healthy assimilation of abundant strong nourishment—lean animal food—and the working up, so to speak, of that nourishment into the system by the aid of regular exercise, not carried to that stage of excess in which the stomach and other assimilative organs partake of the exhaustion, and fail in their functions. In order, however, that the assimilative processes may work to full advantage, the other functions must be in healthy working order: the capacity of the lungs should be good where great strength is required, and the air drawn in pure and dry; the skin should be clear of all impediments to its important fulfilments; sleep should be sufficient to thoroughly recruit the frame—see *Sleep*—and should be taken on a tolerably hard bed, with light covering, which will not tend to cause perspiration, or to relax. Much fluid is to be avoided, and if stimulants are taken, table beer is perhaps the best; wine, mingled with water, next; but spirits never. As above stated, where muscular development is the object, animal food, with bread, must be the staple; vegetables being used only in sufficient quantity to preserve health; but all puddings, pastry, or soft food of any kind, is incompatible with the end in view.

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[*] Tow is strongly recommended as a substitute for a sponge in bathing sores, especially those of a poisonous or offensive nature. It can be burned immediately after use. It is also of service when put loosely around any sore from which there is much discharge, to absorb the matter. Pillows and pads stuffed with it are much used in surgery.

In fact, training, being the endeavour to bring the physical power and endurance up to the highest possible pitch, is a system of hygiene, from which all may derive information respecting the management and improvement of health, without their object being the cultivation of brute force.

It must, not, however, be imagined that it is laid down as a principle, that animal food in large quantity, or even at all, is absolutely requisite for the development of great muscular power, this experience tells us it is not. Some of the most powerful and hardy nations of old subsisted solely on vegetable food, and many modern tribes, noted for strength and endurance, do so. These facts, and many others which might be cited, prove that great muscular power is quite compatible with a vegetable diet, if *combined with habitual muscular exertion.* There can be no question, however, that by means of animal food, the system may be more quickly worked up to a state of high tone and condition, but for temporary purposes only; the state is one, in fact, of artificial excitement, and cannot be maintained for any great length of time.*

Refer to—*Food, &c.*

TRANCE.—Catalepsy.—See *Catalepsy.*

TRAVELLING—is both an excitant and a tonic, and, as a remedial measure, in some cases offers advantages by no other mode attainable.—See *Recreation.* Most persons, when undergoing continued travelling, suffer from slight irritable feverishness of the system, particularly if the usual rest be interfered with; the effects of this are best counteracted by spare diet and avoidance of stimulants. Animal food, if taken at all, should be so, sparingly, and the best restorative, except, of course, in real debility, when wine is required, is a cup of tea or coffee. A warm bath at about 92° is an excellent soother of the system after travelling.

TREMOR, or **TREMBLING**—is a symptom and accompaniment of nervous debility and exhaustion, as exemplified in those who exhaust the system by the abuse of ardent spirits. In some diseases, such as fever, the occurrence of tremor is a grave symptom, indicative of giving way of the vital power.

Refer to—*Nervous—Delirium Tremens.*

TREPHINE.—A circular saw used by surgeons, for removing portions of the skull.

TROCAR—is an instrument used for piercing cavities of the body, such as the abdomen or chest, for the purpose of giving exit to fluid. The trocar is usually so fitted inside a metallic tube or "canula," that when it pierces the body, it carries the latter along with it; the trocar being then withdrawn from the tube, leaves a clear passage for the fluid.

TROCHES—**LOZENGES.**—See *Lozenge.*

TROPICS AND TROPICAL DISEASES.—As might be expected, the forms and types of disease, which occur in hot, tropical, climates, are frequently very different from those which are met with in this and other temperate regions. Under articles, "Acclimation," "Bile," "Cholera," "Dysentery," "Fever," "Heat," "Liver," &c., the reader will find information illustrative of the effects of a residence in a warm climate upon the system; to enter into the subject further, here, would answer no good purpose. The author would strongly advise all individuals about to proceed to a warm climate, to consult some medical man of repute—and there are many to be met with—who, from practical experience and residence in such climates, is competent to advise upon the subject, and to point out, in writing, if possible, the peculiar causes and symptoms of disease to be guarded against and attended to. Beriberi is a disease attended by dropsical symptoms, which is almost peculiar to India. Barbiers, a disease which was at one time confounded with the above, is also peculiar to the Indian coasts, but is accompanied with paralysis. Like many other tropical diseases, it is said to be induced by imprudent exposure to night air.

TRUSS.—See *Rupture.*

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* It is now pretty generally agreed, even among professional trainers themselves, that some of their fanciful restrictions as to diet are quite unnecessary, and that common sense, after all, ought to guide one as to the quantity and quality of food taken. It is probable that fewer dangers to individuals will occur from the improved system, and also that the good condition obtained from a course of such judicious training will be more lasting.

TUBERCLE.—See *Scrofula.*

TUMOUR.—A swelling of any kind in the widest sense of the word, but the term is usually restricted to a permanent swelling. Tumours are met with in every situation in the body, and differ greatly in their characters and tendencies. Of these, it would be perfectly impossible for inexperienced and unprofessional persons to judge; as an invariable rule, therefore, whenever a tumour is discovered to exist, it should be submitted to the examination of a medical man without delay, and all rubbings and the like avoided; they are not likely to do good, and may do much harm by irritating, and thereby causing increased growth. Tumours are dangerous from their nature, or from their situation. In some parts of the body, simple, unmalignant tumours, may attain a very large—an enormous — size, without threatening life, or, indeed, causing inconvenience, except from their bulk. Rapid and great increase of bulk is most usual in tumours which are pendant. Of all tumours, those of a malignant or cancerous nature are most dreaded, and generally cause the most pain.—See *Cancer.*

A tumour, however, may give rise to many painful symptoms, particularly if its growth be rapid, simply from the stretching of the parts around it, or of the nerves which pass over it; this often occurs in tumours in the neck.

If, after a tumour has been discovered, any delay must necessarily arise before it can be examined by a medical man, and if it exhibits signs of irritation or inflammation, the best remedies are perfect rest, low diet free from stimulants, the regulation of the bowels, and the application of cloths wet with cold or tepid water, or, if need be, of a few leeches. If a tumour is inconvenient from its weight, it should be supported.

Refer to—*Cancer—Cyst—Swelling, &c.*

TUNBRIDGE WELLS.—"Is one of the most agreeable summer retreats in England." "But it is in the absence of humidity, as deduced from hydrometric observations, the rain gauge, &c., that the climate of Tunbridge Wells surpasses that of most places;" "its true distinctive character and pre-eminence 'consisting' in the momentous element of atmospheric dryness." The nature and medicinal qualities of the Tunbridge Wells mineral spring, are well calculated to aid this very salubrious property of the air, as it holds iron in solution in its purest and simplest state of combination, that of a carbonate, with very little other foreign ingredient, and with a sufficient quantity of carbonic gas to render it a grateful and wholesome stimulant to the stomach.
**The water from this spring prov
beneficial in all cases of simple deb
in such debility as is complica
sluggish movements in the glandul
where no inflammatory action or se
structions exist."**

"People troubled with any fuln
the head should avoid Tunbrid
wells."*†

Refer to—*Chalybeates—Iron, &c*

TURMERIC—is procured from
of a plant—the *curcuma longa*—cul
Hindostan, China, &c. It is us
in powder of a dark lemon yello
Turmeric is a warm aromatic, and
chiefly for its colour, and as a co
especially in the formation of curry

TURN OF LIFE.—See *Menstru*

TURPENTINE — of various
an exudation, chiefly from differen
of pines. Common turpentine is
resinous exudation from the *pinus*
or Scotch fir, and others of the pi
From this the volatile oil of turpe
"spirits of turpentine," as it is ofte
is obtained by distillation, the dry s
which remains constituting res
Resin. Oil or spirits of turpent
valuable remedy, either externall
ternally. In the former case, if a
the skin, by means of cloths soake
is a powerful counter-irritant, ac
mustard, and sometimes even blist
is often employed for purposes of
irritation in inflammatory disease
abdomen. When thus used, it sh
warmed, by placing the pot or bo
taining the turpentine in hot wa
rheumatic affections, lumbago, scia
turpentine is a valuable addition
ments. One part, to two of the ordin
liniment may be used. As an exte
plication in burns, turpentine has be
used.—See *Burns.*

Internally, in small doses, turpen
chiefly upon the kidneys, increas
flow of urine considerably, and giv
the same time the odour of sweet
In larger doses, turpentine acts as
tive, and has chiefly been used in t
in half-ounce doses, combined
equal portion of castor-oil, to dest
carry off worms in the intestinal
—See *Worms.* As an internal re
rheumatic cases, turpentine often
of much service, in fifteen-dro
given twice or three times a day in
may also be given in similar doses
of hemorrhage, as from the bowels
purpura.—See *Purpura.*

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* *Lee's* Baths of England.

† See Appendix.—Health Resorts.

‡ Lately it has been strongly recommended in cases of gastric or enteric fever—see Append
hemorrhage from the bowels.

When a large dose of turpentine is taken internally, it is apt to cause sickness, with a feeling of giddiness resembling intoxication; after this it usually purges freely, especially if combined with another purgative, such as castor-oil. If the purgative action of turpentine is not freely developed, it will, in some persons, affect the kidneys severely, causing symptoms of strangury, similar to those which occasionally follow a blister, and to be alleviated in the same way.—See *Blister*.

Various methods of taking oil of turpentine are recommended, one of the most usual being that of emulsion, made with the yelk of one egg for every two drachms of the oil, and distilled or soft water. The author generally gives it, and finds it well taken in milk, the oil being added to the milk just before it is swallowed.*

As an addition to clysters in stoppage of the bowels, in worms, &c., turpentine is frequently used in the proportion of from half an ounce to an ounce and a-half to the pint of gruel or barley-water. After turpentine has been used in a clyster instrument, the latter should be well cleansed by warm soap-water being passed through it.

Refer to—*Clyster*, *&c.*

TURNIPS.—The turnip belongs to the cruciferous plants, or mustard tribes. It is nutritious, containing vegetable albumen and fibrine in considerable proportion, and also saccharine; these, however, are combined with much water. The turnip is somewhat laxative and diuretic; it is, however, liable to disagree and cause flatulence in persons of weak digestion. A turnip poultice is sometimes used, but is disagreeable from its smell.

TYMPANITIS—is unusual distension of the stomach and intestines with gas. This is apt to occur in fever and in acute inflammation within the abdomen. In such cases it is a symptom which must often be seriously regarded. Tympanitis, however, sometimes occurs as a chronic affection. In any case, it may proceed to a great extent, distending enormously the whole abdomen and impeding the breathing. Clysters of assafœtida, rue, turpentine, or other stimulant aromatics give relief; and aromatics, sal volatile, tincture of cardamoms, &c., are often given internally, but many cases derive more benefit from the mineral acids.

Refer to—*Clyster*—*Rue*—*Mineral Acids*.

TYMPANUM.—See *Ear*.

TYPE OF A DISEASE—is the combination of characteristic, prominent symptoms, which mark all the cases of a prevailing disease, such as fever, &c.

† TYPHUS.—See *Fever*

ULCER AND ULCERATION.—An ulcer is a sore which discharges matter, and which arises from loss of substance, or separation of continuity in any of the living structures. When a wound, instead of healing up at once "by the first intention," remains open, discharges healthy pus or matter, and presents upon the surface small red points or granulations, it is a specimen of a healthy ulcer, or one tending to heal. But though ulcers, whether healthy or the reverse, may be the result of external violence or wound, they more generally take their origin in causes from within; they depend upon some constitutional or bodily cause, usually one which produces debility of circulation, general or local: as a consequence, the nutrition of the tissues dependent on healthy circulation is interfered with, and the process of absorption which is ever going on within the body—see *Absorbents*—by removing the tissues more rapidly than the loss can be supplied, gives rise to loss of substance or ulceration. At least this is one of the explanations given of the nature of the process. Ulceration may occur both within, and on the surface of the body; under article "Bone," caries was described as an ulceration of bone. Ulcers also occur in the mouth and throat, and, indeed, on any portion of the membrane lining either the respiratory or digestive passages. Respecting these forms of ulceration whatever is requisite has been entered into in other articles; in this place, external ulceration of the skin is only treated of.

Ulcers may occur on any portion of the surface, but their most frequent site, out of all proportion, is upon the legs, and upon the left oftener than upon the right: they are moreover much more common in the aged than in the young. If it be borne in mind what was said about the dependence of ulcers upon impaired efficiency of the circulation in a part, the reason for their occurrence on the lower extremities will be obvious, when it is reflected how far these members are removed from the centre of the circulating power, and how greatly the return of the blood upwards must be interfered with by the influence of gravity. The upward flow of the blood—see *Veins*—is promoted by a variety of agents, and is greatly assisted by the valves with which the veins are provided; when these valves, as they often do, become deficient or useless, the important uses they subserved become obvious; the veins of the leg are now exposed to the full weight of the column of blood above, no longer supported by the valves, and they become tortuous and swollen, or as it is called, "varicose."—See *Veins*. In this condition of the veins there exists the commonest cause of ulcer: the blood in the large vessels being retarded, reacts upon the circulation in the smaller, or "capillary" branches, and sooner or later ulceration is the result. This ulceration may arise spontaneously, without obvious cause, but very often it is determined by some slight injury; a scratch, a bruise, or an abrasion causes slight inflammation, and gives the first start to the ulcerative process, which extends with greater or less rapidity, according to circumstances, and gives rise to ulcers presenting very different appearances. Into the minutiæ of these appearances it would be useless to enter here; some ulcers present an angry inflamed appearance, with a blush of inflammation extending for a considerable distance around; some are surrounded with hard swelling without much apparent inflammation; and the sore appears to lie deep, surrounded by thick edges. In some the surface of the sore seems glazed and smooth, in others the granulations are large, prominent and pale, constituting what is called proud flesh. Some of the sores are but little felt, others are intensely painful and irritable. Although it has been said that a large proportion of ulcers depend upon a "varicose" condition of the veins, all do not; many are occasioned by constitutional or other causes. Indeed, the existence and appearance of an ulcer will often afford to a medical man a good index to the state of the system generally.

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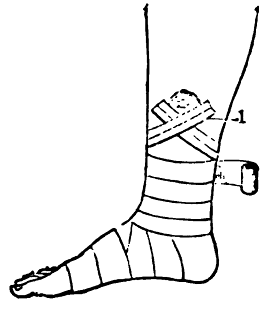
* It may also be made up in capsules of gelatine.

† For an account of enteric, *typhoid*, or gastric fever, see Appendix, article "Enteric Fever."

There are cases of ulceration which require all the skill and patience which a medical man can bring to bear upon their treatment, and where an ulcer is continued, and appears to extend, it should always be placed under proper medical superintendence. There are, however, certain general rules of management which may be adopted with advantage by unprofessional persons, either in their own persons or on those of others.

The great requisite in the treatment of ulcers of the lower extremity is rest, and rest in bed, or at least in the horizontal posture, so that the circulation of the affected limb may become properly balanced. It is often surprising how quickly, under this proceeding alone, and without other treatment, the swelling around an ulcer subsides, and the sore itself alters to a more healthy character. Indeed, there are cases which only require rest to get well. In many cases, however, especially of old standing, further treatment is requisite. If there is angry-looking inflammation and a foul sore, the
one has to be subdued and the
cleansed, in the first instance by p
continued for two or three days, afte
water-dressing—see *Dressing*—may
stituted, and if the ulcer improves
its use, continued till the cure is co
it may be necessary, however, if the
of the ulcer appears pale, and the
lations large and flabby, to substit
the water an astringent lotion of lea
tincture of myrrh, or to touch the
of the sore, lightly, with lunar cau
sulphate of copper or blue-stone.
liquid dressings of water or lotion,
preferable in every way to ointmen
is desirable, even while the patient
fined to bed, to support the limb and
the dressings by means of a roller b
applied from the toes upwards, and
especially requisite if, or when, the
the recumbent posture is abandone
many cases of ulcer, however, it occu
rest cannot possibly be taken; in su
treatment by strapping with plast
by the use of a supporting well
bandage, offers the most benefit, an
chance of cure; even in these cases
ever, it is desirable, if possible, to p
the subsidence of the inflammatio
swelling by a few days' rest. When
ping is used, the leg ought in th
instance to be well washed, and the
shaved off; a roller bandage—see *Ba*
fig. C—is then to be applied from th
to a little below the sore; strips of
rather more than an inch broad, and
enough to go once and a third roun
limb—fig. A, 1—are applied piec

A



piece, each one overlapping slightly
preceding, from an inch below to an
above the sore. The mode of applic

is this—the strip being heated,[*] its centre is applied to the side of the limb opposite the sore, and the ends are brought round to overlap as represented, care being taken in the application of both strapping and bandage, that they lie evenly, so as to afford equable and sufficient support to the limb, and especially to the veins. With such a dressing as the above, an individual may be permitted to take a considerable amount of exercise. The dressing will require changing every two, three, or four days, according to circumstances; if the discharge is very profuse, it is well to cut a piece out of the plaster directly over the sore. Diachylon plaster is commonly used for strapping, but for irritable skins soap plaster is preferable; in some cases even this cannot be borne. Of course these rules as to position, support, &c., apply more especially to ulcers situated on the lower extremities. When an ulcer appears to depend on any particular derangement of the general health, the latter should be attended to, the bowels especially must be kept unloaded, the contrary condition tending greatly to cause and keep up the varicose condition of the veins. In the aged, in whom the functions and circulation generally, are torpid, much benefit often results from the use of moderate doses of opium—this is a point, however, which ought to be regulated by a medical man.

In some cases, in which an ulcer has been in existence so long that it has become as it were an established excretory outlet for the system, it cannot be healed up without danger of some other disease, such as apoplexy, &c., supervening. As circumstances may, however, render the healing of even an old sore both safe and desirable, a medical man should be consulted. Serious accidents occasionally occur in consequence of an ulcer on the leg opening into one of the veins; when this occurs, a large, or even fatal quantity of blood may be lost in a short time, unless the individual, or some other, has sense enough to elevate the limb above the level of the body.—See *Hemorrhage—Veins, &c.* In dressing ulcers, the mistake is often committed of being too assiduous in cleansing their surface, washing off the pus or matter which lies upon it, and which in some measure is a protection against irritation. This should not be done. The pain of an ulcer underneath either bandage, or plaster and bandage, may often be alleviated by simply soaking the dressings with cold or tepid water, without removing them.

Refer to—*Bandages—Veins, &c.*

UMBILICUS.—The navel.—See *Childbed—Children—Rupture, &c.*

URETER.—The tube which conveys the urine from the kidney into the bladder.—See *Kidney.*

URETHRA—is the passage for the urine from the bladder.—See *Bladder.* This passage is liable to be affected in various ways, especially in males; sometimes it is injured by violence, at others, small stones or calculi, are apt to be impacted in it, and cause much suffering.—See *Urine.* The most frequent affection, however, of the urethra, is stricture, or diminution of its calibre. This painful disorder in males generally takes its origin from diseases contracted in the irregularities of early life, especially, but may continue to afflict—or punish—even in old age. Stricture is of course of every degree, but sometimes proceeds so far as to occasion complete impediment to the discharge of urine, causing much distress and suffering, and requiring the instrumental interference of the surgeon.—See *Catheter.* If there is any necessary delay in procuring assistance, the measures recommended in article *Bladder—Stoppage of Urine*—will give relief in the meanwhile. In this disease, as well as in others which affect the urinary organs, it is again repeated, *avoid the quacks.*

URINE.—This most important excretion, is purely an excretion; that is to say, it does not, after its formation, fulfil any purpose connected with the living system, before it is thrown out of the body; in this respect, differing from such an excretion as the bile, which, although it is constituted of elements filtered off from the blood, to the purification of the vital fluid, yet, certainly fulfils important ends in the digestive processes, and, if Liebig be correct, in the development of animal heat also.

The minute structural arrangements in the kidney, whereby the secretion of the urine from the blood, is effected, have already been sufficiently entered into: to article "Kidney," the reader is referred.

The urine being separated or "secreted," solely from the blood, and being thrown out without serving any purpose in the living economy, must, by simple reasoning, be supposed to contain ingredients from which the body ought necessarily to be freed, and which could not be retained without injury; such proves to be the case. for complete suppression of the secretion cannot continue above a few hours without symptoms of narcotic poisoning being developed, and death ensuing, if the function be not restored. Urine consists of water holding in solution certain animal principles, and a proportion of saline constituents. The principal and most characteristic ingredient of the urine, however, is its urea, a body which acts as a base to, or combines with acids; it is the retention of this compound in the blood which causes the symptoms of narcotic poisoning already alluded to, when the urinary secretion is suppressed. Above half an ounce, on the average, of urea is excreted in the urine of an adult in the twenty-four hours; but in some cases, when rapid emaciation goes on, the proportion is greater, the urea being in fact a product formed from the used-up tissues of the body. Next in importance to the urea of the urine is its peculiar acid, generally known as uric or lithic acid. It is this acid, which, when in excess, constitutes the yellow or red crystalline gravel, or "sand," which is so frequent in many persons. This acid exists partly in combination with ammonia, forming what is known as the "lithate," or "urate of ammonia."

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[*] The heating may be effected quickly and easily by simply passing the slip of plaster through a basin of hot water, holding one end in each hand.

In addition to these two principal and characteristic constituents, urine contains various animal and colouring matters, also muriatic, sulphuric, and phosphoric acids, in combination with lime, magnesia, and soda, all these being derived from the blood. Further, there is always mixed with the urine a certain proportion of "mucus" derived from the bladder and urinary passages. Moreover, other ingredients not natural to it, are apt to be intruded into this fluid, such as the albumen of the blood, or blood itself, pus or matter, oxalic acid, &c. The average quantity or urine secreted by the kidneys of a healthy man in the twenty-four hours, is from thirty-five to forty ounces, containing from six to seven hundred grains of solid matter. Both fluid and solid matters, as already stated, are derived solely from the blood; not, however, we have every reason to believe, from the healthy constituents of the blood, but from those which have become "effete," which having served their purpose in the economy, have been taken into the current of the circulation, probably, for the sole purpose of being brought under the power of the excreting organs. Not only, however, do the kidneys separate the used-up materials which have formed part of the organized frame, they also lay hold of, so to speak, and throw out from the blood, many ill-digested and useless matters which have been derived from the food.

From the above account of the sources of the urine constituents, it cannot excite surprise to find the fluid varying, as all know it does, at different times. Even within the limits of health, the variations are regular, almost periodic. Thus, after a fluid meal, such as breakfast, or after much fluid has been taken, the kidneys secrete largely, the urine is plentiful, but generally pale in colour—it is the *urine from fluids*. Again, after a solid meal, such as dinner, the urine is less abundant, it is darker in colour, and probably has the odour of some ingredient of the previous meal—this is the *urine of solids*. Lastly, if no heavy meal has been taken just before retiring to rest, the urine is probably a mean between that of the fluids and that of the solids, it is the *urine of the blood*, and being less likely to be influenced either by solids or fluids which have been taken into the system, affords the best index, as far as the urine is concerned, of the bodily condition. This is the reason why the "morning urine" is so often examined, in preference to that passed during other periods of the twenty-four hours. Although exposed to the above sources of variation, urine, if perfectly healthy, ought to be transparent, not only when passed, but when it becomes cool, a just perceptible cloud, composed of healthy mucus, being only visible at the bottom of the vessel; the colour ought not to be too dark, and the fluid should be acid when examined by means of litmus. The specific gravity ought not to vary greatly from the healthy average of 1·018—that is to say, for any length of time, or except from some obvious cause. In hot weather, in this climate, and in hot climates generally, when the action of the skin is so much increased, it of course leaves less fluid to be drained from the blood by the kidneys, and as the solids to be carried off by these glands still remain the same or nearly so, the specific gravity of the smaller amount of fluid must be proportionally increased; here we have an obvious cause for the change, no less obvious than that which gives a large quantity of pale urine of low gravity if an individual indulges in fluids. Farther, we know that nervous individuals, of both sexes, and especially hysterical females, will occasionally secrete very large quantities of colourless urine. Such variations, therefore, cannot be considered to be the result of disease, but when permanent increase or diminution of the quantity of urine—see *Diabetes—Dropsy—Bright's Disease*—occurs, without being accounted for, and especially if symptoms of constitutional disorder or debility, or of dropsy, shew themselves, a medical man should at once be consulted.

Perhaps, the most common disorder to which the urine is liable, is excess of its usual constituents, the lithic or uric acid. That is, in such excess, that instead of remaining dissolved, as in healthy urine, it becomes "precipitated;" in other words, there is so much of it that the urine cannot hold it dissolved. Thus, uric acid may exist uncombined, in which case it is deposited in the form of crystalline sand, of a yellow or red hue; very commonly, however, it exists in the combination with ammonia, as a "urate of ammonia," in which case it does not crystallize, but takes the form of a cloudy precipitate. This urate of ammonia forms the fawn-coloured sediment, with which most are familiar, as a consequence of a chill or of a common cold; it also assumes a pink, sometimes a deep red or purple hue, especially in affections of the liver; indeed, whatever colouring matter exists in the urine, the urate seems to attract it strongly. Urate of ammonia is extremely soluble in warm water or urine, and much less so in cold, so that, although when the urine is passed, it may contain it abundantly, the secretion is perfectly transparent, and it is only as it cools, and can no longer hold the urate in solution, that the latter becomes visible. This excess of lithic acid, alone or combined, in the urine, may arise from a variety of causes. One of the most frequent temporary occasions of it is suppressed perspiration. The skin is constantly excreting acid—lactic acid—along with the perspiration, so that when the latter is checked, the acid is thrown back upon the system. Here, the wonderful power by which one organ "compensates" for the deficiencies of another, is brought into action, the kidneys assume in some measure the office of the temporarily disordered skin, and cast out the acid, not as lactic, but as uric acid, from the system. Another frequent cause of excess of uric acid, is the introduction of injurious—probably often lactic—acid into the system, in food or drinks. The malt liquors, especially when in the least "hard," or old and acid, are most fertile sources of uric acid, from which brewery men and labourers, who often drink largely of old and acid beer, are extremely apt to suffer. —See *Ale*. A third source of uric acid, or red or pink gravel, is disorder of the digestive organs, especially if too full a diet, of animal food, be indulged in. There are other causes of uric acid excess, such as extra fatigue, especially if it gives rise to feverishness, &c. Moreover, uric acid may exist in excess in the blood, and yet may not be manifested in the urine; such is the case in gout—see *Gout*.

The white sand or gravel is by no means so common as the red, and is usually connected with an alkaline condition of the urine; it, and indeed the white sediments generally, are more usually met with in the aged, and in states of debility. Oxalic acid occurs frequently in the urine of dyspeptic persons, but may be occasioned by food which contains the acid naturally, such as rhubarb. Its presence cannot be detected without the aid of the microscope. Albumen in the urine has been already alluded to—see *Bright's Disease*. Blood may occur in the urine in small quantity, giving the fluid merely a dark smoky tinge, or it may be discharged in large quantity as nearly pure blood. In some cases, matter and thick glairy mucus are discharged with the urine. In pregnancy, occasionally, a thin creamy-like scum forms on the urine, if it be allowed to stand for a day or two. Deviations from the healthy character of the urine are important, first, as indicative of deranged states of the system, and, second, from their own local effects. Some individuals are much more liable to have the urine disordered than others, but in none can the condition be permitted to continue without risk, nor ought it to be without the cause being investigated. Such temporary disorders as that produced by cold, are in themselves comparatively unimportant, and the best remedy is to restore the functions of the skin, by warm baths, diaphoretics, &c.

When red, or pink, or fawn-coloured gravel appears to be permanent, and to be connected with derangement of the digestive organs, the symptoms should not be neglected. If food has been taken at all in excess, it should be reduced, and the allowance of animal food especially, moderated, *malt liquor of every kind being sedulously avoided*. If stimulants are necessary, a little sound sherry, or brandy, or gin with water, are the best. Exercise should be taken freely, but not to exhaust, the skin should be well cared for by frequent ablution. As regards medicine, the alkalies at once naturally suggest themselves as remedies, and most valuable they are—see *Potash—Soda*—they quickly cause the acid to disappear, and were the disappearance of the acid all that is required, they alone might suffice; but the cause of the gravel, especially of the pink variety, is generally some derangement of the digestive processes, which must be rectified, if permanent amendment is desired. On this account, quite the safest plan is to consult a medical man on the subject, but if this is not done, along with the alkalies, some one of the tonic bitters should be combined; in fact, the digestive organs should be attended to as recommended in article "Indigestion."

One caution is here requisite. Persons who have been the subject of red gravel, are very apt to continue too long the use of alkaline remedies, and thus seriously to injure the constitution and the digestive powers, and in the end to induce a permanent alkaline condition of the urine, which is a more serious and intractable malady than the opposite acid state. The presence of white gravel is often so indicative of serious disease, that as soon as its presence is suspected, a medical man ought to be consulted. The tendency to its formation is frequently difficult to remove. One of the best remedies in alkaline urine is the nitro-muriatic acid; it is likewise a most valuable remedy in the oxalic acid urine. Oxalic acid is itself very soluble, but occurs in urine in a comparatively insoluble form, in combination with lime, in the shape, as seen under the microscope, of beautiful eight-sided crystals. This form of gravel is far from being uncommon, but when abundant and persistent, it is often associated with hypochondriac indigestion in the melancholic temperament. Whatever the form of the gravel, the skin and the digestive organs require especial attention. It is always desirable to keep the flow of urine free, and for this purpose sweet nitre, or infusion of broom or dandelion are well adapted. Many find gin, used in moderation, of much service. When, however, the symptoms of gravel are constant, a medical man ought to be consulted, for it is not solely the immediate inconvenience which is to be obviated, but the liability of the gravel, whatever its nature, to accumulate, either in the kidney or bladder, in which case the result is either a most painful attack, a "fit of the gravel," or the formation of "stone."

"A fit of the gravel" is caused by a small gravelly concretion, or stone, passing either from the kidney down the ureter into the bladder, or through the passage—the urethra—from the bladder; in either case giving rise to intense suffering. When the passage is from the kidney to the bladder, the pain often comes on suddenly, is felt chiefly in the groins and down the thighs, sometimes occasioning cramp; it remits, and if pressure be made deep in the groin, there is tenderness. The symptoms of the passage of a small stone from the bladder, are somewhat similar, varied of course by situation; there is often sickness and vomiting. In such cases, the best means of relief, till a medical man sees the case, are the warm bath, hip or general, and hot applications generally. Opiates in tolerably large doses, equal to twenty or thirty drops of the tincture, are required at intervals to allay pain, given either by the mouth, or in warm clysters of tolerable bulk, which give relief by acting as an internal fomentation. Copious draughts of demulcent drinks, barley-water, and the like, are advisable. Sweet nitre may be given, and if the acid is known to be red habitually, the alkalies will be useful. Solution of potash, in twenty drop doses, is perhaps the best. Should great tenderness of the seat of pain come on, leeches may be required, but the above measures will suffice to give much relief, till the case is visited by a medical man.

Stone, that is a concretion of gravel so large that it cannot pass by the natural outlets, may form either in the cavity of the kidney, or in that of the bladder. This affection is more common either before puberty or after middle age.

When a stone forms in the kidney, it gives rise to a constant sense of uneasiness, or of pain, in the back and loins, extending down the thighs. These uneasy sensations are always aggravated by motion, especially that of riding, either on horseback or in a carriage, and after such exercise the urine is apt to be tinged more or less with blood, or to contain small blood clots. When the pain is severe, sickness may be produced. The stone in the kidney may continue without change of situation, and with but little enlargement, for an indefinite time, but if it descends into the ureter, it then gives rise to the painful symptoms, a fit of the gravel, above described. When a stone has descended into the bladder, the symptoms it occasions are in some respects similar to those caused by one lodged in the kidney, but are more severe. The calls to empty the bladder are increased in frequency, the attempt causes pain more or less, and the stream of urine is apt to be suddenly checked, probably by the stone falling against the opening. In such cases, if long continued, the urine is apt to become loaded with thick mucus, or with pus or matter. The suspicion of such a malady as stone, ought at once to be the signal for the case being properly examined. In the meanwhile, as little movement as possible should be made; demulcents—see *Demulcents*—taken freely will be found useful, and if there is much pain, it may be soothed by opiates, given either by the mouth, or in the form of injection.

Incontinence of urine in the aged, stoppage of the urine, and strangary, are sufficiently entered into in article "Bladder," to which the reader is referred.

Incontinence of urine in the young, wetting the bed, is frequently a most annoying habit, and one, moreover, which is often not to be overcome without much difficulty; it may even continue up to the time of puberty, or beyond it. Various methods of treatment are employed—nitrate of potash, saltpetre, given for some time to the amount of half a drachm in the twenty-four hours, to a child of seven or eight years of age is said to be sometimes successful. The quantity may be given in three doses of ten grains each, dissolved in barley-water. Benzoic acid, in six grain doses, in the form of pill, given twice a day, is used by some; the author has found the tincture of muriate of iron, "tincture of steel," answer well, in doses of ten drops, twice or thrice a day. This remedy is peculiarly adapted for weakly children. In all such cases, it is extremely important that, without being purged, the bowels are kept lax. The quantity of fluid permitted should be kept at a medium, but the amount taken in the afternoon and evening must be curtailed as much as possible. In addition to the above remedies, either the cold douche to the lower part of the back, or the cold hip bath at night or in the morning, which ever is found most beneficial, may be employed.

Dribbling of urine, either in the aged or in those confined to bed by some continued and exhausting diseases, is a not unfrequent occurrence, which occasions much discomfort both to the patient and others, in consequence of the offensive ammoniacal odour. This is best counteracted by bags filled with peat charcoal, when it can be procured, placed under the patient, or by bags of bran slightly moistened with diluted sulphuric acid.—See *Sulphuric Acid.**

Refer to—*Urethra.*

UTERUS.—See *Womb.*

UVA URSI.—Bearberry is a low creeping shrub, which grows in rocky heath ground throughout Northern Europe, including Britain. Its leaves, which are used in medicine for their astringent properties, are deep green in colour, somewhat resemble those of the box, but are thicker and more leathery. As an astringent, particularly in urinary affections, the uva ursi might be advantageously used in localities where it is found. The dose of the dried powdered leaves is from ten to forty grains. The decoction is made with one ounce of the bruised leaves to one pint and a-half of water, boiling down to a pint, the dose one and a-half fluid ounces.

UVULA.—See *Palate—Throat, &c.*

VACCINATION.—See *Cow-pox.*

VALERIAN.—The root of the *valeriana officinalis*, or common valerian, is one of the most useful and generally used remedies in hysteria, and in spasmodic attacks generally. This plant grows commonly in Britain, usually about moist hedge-bottoms, woods, &c., showing its heads of lilac-coloured flowers in the month of August. The root, which has a powerful peculiar odour, consists of a number of rootlets, about the thickness of a crowquill, which proceed from a central stock. Valerian is given internally in various forms, but the preparation generally employed is the ammoniated tincture, in drachm or drachm and half doses, in an ounce and half of water; this preparation ought to be purchased ready-made. The common tincture, of which the dose is the same as the above, is made by macerating five ounces of the bruised root in two pints of proof spirit. The dose of the powdered root is half a-drachm.

†**VALVES.**—These mechanical agents are found connected with the circulating system.

Refer to—*Heart—Veins.*

VAPOUR BATH.—See *Bath.*

VARIOLA, Small Pox.—See *Small Pox.*

VEAL—like young meats generally, is not so digestible as the flesh of the adult animal, but it is rendered more injurious to persons of weak digestion by the conventional modes of cooking with melted butter, &c. The objection to veal, as invalid diet, does not extend to the broth made from it, which is often peculiarly adapted to the requirements of convalescence and illness, from the amount of gelatine it contains.‡

VEGETABLES.—See *Food—Grains*—and articles on individual vegetables.

VEINS.—The veins are the vessels or membranous canals through which the blood is conducted back to the heart—see *Circulation*—after it has passed through the capillary vessels, and been brought into intimate contact with the tissues of the body. Whilst passing through the capillaries, the blood undergoes the change from arterial or red blood, to venous or black, or rather dark purple blood; its mode of progression is at the same time altered; instead of the forcible, intermittent, propulsion which attended its passage through the arteries, it moves through the veins more equably, and without pulsation, except occasionally in the large veins of the neck. Its progress, however, is accelerated by muscular movements. Moreover, as the aggregate calibre of the branches of the veins distributed throughout the body, is considerably greater than that of the large trunks into which the blood is collected as it approaches the heart, the current of the venous blood must be accelerated as it enters these large vessels. Like the arteries, the veins have three coats, an external or protective, an inner or lining, and a middle or fibrous coat. It is in the latter that the principal difference as to thickness between the two sets of vessels principally exists, the middle coat of the vein wanting the elastic fibre of the artery; consequently, when veins are emptied of their blood they become flat and collapsed, whereas arteries preserve their cylindrical form. A further difference exists in the interior of the two vessels—the veins, particularly of the extremities, are furnished with valves, distributed at intervals. These valves are so arranged, that whilst they permit the free flow of the blood towards the heart, they do not permit its retrocedence. A moment's reflection will make evident how greatly this valvular arrangement must assist the, for the most part upward, current of the blood in its return towards the heart; how great the inconvenience attendant upon its impaired efficiency will be shown presently. The veins generally are divided into those which lie deep and accompany the arteries, and into the superficial veins. The most important of the latter, as far as a work like the present is concerned, are the external jugular veins of the neck, generally so evident in thin people. The veins at the bend of the arm—see *Blood-letting*—the veins of the lower extremity, and those of the rectum, the hemorrhoidal veins; moreover, in addition to the veins properly so called, there are the venous sinuses. See *Sinus.* When a vein is wounded, either by accident or design, the blood flows from it in a continuous stream, with much less force than from an artery, and dark in colour; moreover, the bleeding from a vein is generally more easily arrested than it is from the elastic, muscular, arterial tube, assisted by the pulsation of the heart, comparatively slight pressure by a pad, or otherwise, being sufficient to restrain the flow from the former.—See *Hemorrhage.* A wounded vein generally heals quickly, and the current of the blood through it is uninterrupted. In order to arrest the flow of blood through an artery, it is necessary to make pressure between the bleeding point and the heart, or trunk of the body, in the case of a vein, the reverse must be done. In almost all cases, however, in which it is desired to stop bleeding from a vein, pressure directly over the wound is the best remedy.—See *Ulcer —Varicose.*

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* In some cases a large coarse sponge may be used to absorb the urine. In such cases it is expedient to have two sponges, so that one may be cleansed and dried whilst the other is in use.

† Valetudinarian.—One who is the subject of frequent illnesses.

‡ The knuckle of veal stewed so as to be very tender, affords food which agrees remarkably well with weak and especially with irritable stomachs.

Veins are liable to inflammation from wounds, from inflammation extending from the adjacent parts, &c. This is a most dangerous affection, and frequently resists the best directed efforts of medical skill. The affected vessel is painful, feels hard, and the skin covering it, and the parts around, are red and inflamed; there is much constitutional fever, which tends quickly to a low or typhoid form. The most that could be done by an unprofessional person in such a case would be to use repeated fomentations to the inflamed parts, and to administer from quarter to half grain doses of opium with two grain doses of calomel, every three, four, or five hours, according to circumstances, until the arrival of a medical man.

A "varicose" condition of the veins is chiefly met with on the lower extremities. The affection consists, essentially, in the veins becoming elongated, so as to permit of their assuming a tortuous knotted condition, while they are at the same time enlarged. The state is usually associated with obliteration or deficiency, more or less, of the valves within the veins, so that the weight of the entire superincumbent column of blood bears with distensive force upon the vessels, and upon those parts of them which are most dependent. The most frequent causes of the varicose veins are such as cause impediment to the upward flow of the blood through the large veins of the abdomen. In this way, pregnancy, if frequent, is a most common exciter of the condition, habitual costiveness, diseases of the liver, tumours of any kind within the abdomen, act in a similar manner. The truss worn on account of rupture, or garters too tightly tied, likewise excite the varicose condition, which is usually more common in persons whose occupations require much standing, especially if they are of tall stature. The inconveniences which ultimately result from a varicose condition of the veins of the leg have been sufficiently pointed out under article "Ulcer." The causes of it, which have been just alluded to, naturally suggest the best means of alleviation and cure, that is, the removal as far as possible of all interruptions to the upward flow of the blood, and the horizontal posture of the body or limb. As these conditions, however, cannot in all probability be perfectly carried out, it is desirable that in all cases of varix, the veins and limbs generally, should be supported by some one of the forms of elastic stocking: these can now be obtained at so moderate a price, that none need be without their valuable aid. It is often surprising how immediately the use of well-applied mechanical support, such as the elastic stocking affords, removes the uneasy and painful sensations connected with the condition of the veins in question. Some individuals cannot, however, wear an elastic stocking of any kind; for such cases, an elastic tape fixed to the foot by a stirrup, and wound spirally round the limb, has been successfully employed. Spaces of about three inches being left between the spirals, each time the band crosses the vein, it acts like a valve. Other methods of curing varicose veins, such as tying, &c., are had recourse to by surgeons, but as long as sufficient comfort and relief can be obtained by the use of elastic supports, they are perhaps better avoided.

VENEREAL.—See *Syphilis.*

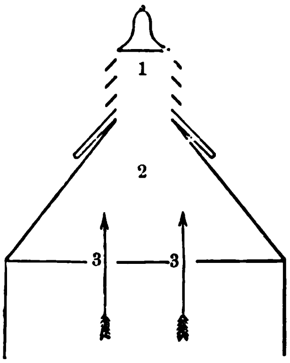
VENESECTION.—See *Blood-Letting.*

VENISON.—The flesh of the deer, like that of other wild or hunted animals, is particularly digestible, and is probably rendered more so by the custom of long keeping. In Dr. Beaumont's table of the digestibility of various articles of food, "venison-steak" is noted as taking but one hour and thirty-five minutes for digestion; beef-steak being noted in the same table as requiring three hours.

VENTILATION—is the renewal of the air contained in enclosed spaces. The object of the operation is to provide in the first place for the escape or withdrawal of air which has become deteriorated from any cause, such as animal respiration; and in the second, to supply the place of the deteriorated withdrawn air, by that which is fresh and pure. Under the head of ventilation, moreover, the heating and cooling of air may, perhaps, be included. Under such articles as Air, Aëration, Blood, Lungs, &c., the requirements of the animal constitution, which render a regular supply of pure air necessary for health, have been sufficiently entered into, and need not be repeated; and under article Bed-room, information on the subject itself will be found—to these the reader is referred. The entire surface of earth is subject to a vast system of ventilation, effected by means of the currents of air, or winds, which are continually passing over it, especially by those which, like the "trade," and other winds, blow continuously in one direction for months together.

In some respect, ventilation is the necessity of a nation living in a variable and cool climate, and of a people who have attained proficiency in architecture, and particularly in domestic architecture. In hot climates where the breezes from without are rather courted than shunned at all times, ventilation, except in the way of cooling, is uncalled for as a systematic arrangement. In the ruder ages of our own country, when shuttered instead of glazed windows prevailed, and when buildings and fittings generally were defective, ventilation was abundantly, though unintentionally provided for, and especially as long as the wide lofty chimney-place remained.—See *Chimney.* But at length, when the art of building attained greater perfection, when doors and windows were made to fit tight and well, the ventilation was interfered with by the very perfection of the work, and as practical, scientific knowledge of sanitary matters was but little diffused or cultivated, we have the fact of a community suffering evil in consequence of an art being more rapidly advanced than the practical science which ought necessarily to accompany it. Now, however, not only are scientific and professional men well aware of the necessity for providing proper ventilation of all inclosed places occupied by man or animals, but most educated people, generally, are alive to the fact, and have some idea, at least, of the principles on which the necessity is based. We cannot return to the old unintentional ventilation of badly built dwellings, and old fashioned chimneys, consequently, *the* desideratum has been to find those systems of ventilation which shall combine efficiency with comfort and economy, and which in many instances can be most easily adapted to buildings already constructed, without reference to any plan of ventilation at all. Unfortunately, even of the public erections, liable as they are to be filled with living beings, there are too many destitute of any provision for renewing the air deteriorated by the breath and exhalations of the assembled crowds. Moreover, in many instances, where an attempt at ventilation is made, the unscientific mode of its execution and arrangements renders it abortive, or nearly so. Apertures may be made in walls, or roofs, but without some method of renewing the air, they are comparatively of but little use. Ventilation, that is movement of the air, may and is effected in various ways. Bellows which force the air through the place to be ventilated have been employed, but except in special cases they are not used; screen and fan ventilators to withdraw the air have also been constructed, but by far the most efficient, and in a country like Britain, generally applicable, ventilating agent is heat. As heated air has a natural tendency to ascend, and as all air and vapour, which passes off from the animal lungs or skin, is heated, in obedience to the above law it ascends, and in doing so must leave space to be supplied by the surrounding cooler air. Such is the natural ventilation under which we all live, but to be efficient, it is evident that the air which supplies the place of the impure, warm, respired air which has ascended, must be pure also. If one or more persons are seated in a closed room, which has no exit for the air above the level of the nostrils and mouths of the occupiers, the heated air which has ascended can only accumulate above, that is at the top of the room; and as it gradually cools, being displaced by fresh supplies of warm air, it must necessarily descend to be re-breathed. In this way the circulation of the confined air goes on, every breath rendering it more deteriorated and unfit to support animal life, till at length, if the circumstances were continued, life could not be supported at all. The first remedy for this state of things, which presents itself to the mind, is to make apertures in the roof above, to permit the bad air to escape, and when nothing else can be done, such a proceeding is better than no provision at all. Moreover, the efficiency of such apertures as ventilating agents, may be considerably increased, by fitting them with a short tube of some kind, divided by a partition, so as to admit of a double current, one upward of heated, and another downward of cold fresh air. When there is both roof and ceiling to an apartment—fig. A—the ventilation may be considerably assisted by "cowls"—fig. A, 1—fixed to the roof, so that the wind blowing through them may tend to draw off the air admitted into the space—2—from the apartment below by means of the apertures—3—3.

A



Dr. Boswell Reid found in his experiments, that cool air admitted into a crowded room by the floor, was raised from ten to twenty degrees of heat before it reached the heads of the people, solely by the heat of their bodies, evidently showing, that this natural ventilation, as it may be called, if simply facilitated by openings in the roof for the escape of the ascending, impure and heated air, is capable to a certain extent of correcting the necessarily deteriorated atmosphere of a crowded room. But even under the most advantageous circumstances, the effects it can produce must be very inferior to those which result from the employment of artificial heat, which, whenever it is in anyway available, ought to be made an active agent in the processes of ventilation.

In mild climates and in fine summer weather, open doors and windows are at once the readiest and best means of renewing the air of dwellings and other places; as these, however, cannot be available in cold weather, or during the night, it is absolutely requisite that sleeping and other apartments in which no fire is burned, should be provided with some means for permitting the free admission of fresh, and exit of deteriorated air. These means, however, must necessarily vary with circumstances, such as the relative situation of the apartment, its height, window, &c. They may be directed so as to accomplish the renewal of the air in two distinct ways. The first, by providing for the escape of the impure air by openings in some portion of the walls, window, or ceiling above the ordinary level of the head of an occupier, and for the admission of fresh air in such a manner that no injurious current or draught is established.

The second mode may be effected as follows:—

If a house is small, and especially if a fire, as in a kitchen, is left lighted during the night, there are currents of air which set to that fire from every room. In this way, if means for admitting the fresh external air into a bed-room are established, the door being left ajar, or having a perforated panel, there is a continued but gentle flow of air through the apartment to the door. Even without a fire actually burning, there will be a current of cold air towards the portions of a dwelling which have been warmed by the fires and occupation of the day. This mode of ventilating however, belongs rather to that effected by artificial heat. A brisk fire is undoubtedly an excellent ventilator, but even this, with the low chimney-piece, must in a great measure supply itself from the fresh air which comes in at the lower parts of the room, and leave that in the higher parts, which most requires renewal, untouched. To obviate this, chimney-ventilators, such as that of Dr. Arnott's—see *Bed-room*—have been introduced, and probably offer the most efficient mode, and that which is most generally applicable, of drawing off the deteriorated air of a room. In the absence of a regular fire, or in combination with it, gas-burners are commonly employed as ventilators, each light being placed under a tube, with a bell-shaped mouth, and the tube itself made to communicate with the chimney. By this arrangement, not only is the general air of the room carried off, but also that which is rendered impure by the burning gas. Indeed, the arrangement is one which in some modification or other ought to be connected with all gas-lights.

While, however, every care is taken to renew the air in the interior of dwellings, obviously, the measure will be a useless one, unless the air introduced from without is itself pure. In this way the system of ventilation becomes connected with sanitary arrangements generally, such as drainage, &c., and, indeed, with whatever tends to render the air around dwellings unwholesome. Whatever the condition of the surrounding atmosphere, that portion of it which is admitted into dwellings for purposes of ventilation, ought not to be taken from too near the level of the soil, for not only is it liable to be more damp, but also to be impregnated with any malarious agencies which may possibly exist.—See *Ague.*

One other mode of ventilation requires notice, it is that exerted by the chemical action of lime, which, by absorbing the carbonic acid gas of the atmosphere, not only removes a noxious agent, but by the removal of the gas gives space to be occupied by fresh air from without. The method may be useful in some situations, which cannot be otherwise ventilated. It is best effected by a quantity of newly slaked lime, spread on a board.

In a brief sketch like the foregoing, it would be useless to attempt more than an outline of the principles of a subject so extensive as ventilation, neither would it be necessary here, as the most useful details will be found under the heads of the various subjects alluded to in the article. One instance alone, related by Mr. Chadwick, and well known to those who take interest in such matters, will be related to illustrate the powerful influence of ventilation upon health. There existed in Glasgow a large tenement, known by the name of the "Barrack," it consisted of many rooms, each let out to one or more families, so that not less than 500 poor people inhabited the building. The consequence of this overcrowding was, that fever was always in the place, and "in the last two months of 1831, there occurred fifty-seven cases of the disease. At the suggestion of a medical man, there was fixed into the ceiling of each room a tube, which was made to communicate with the chimney of a neighbouring factory. In this way an efficient system of ventilation was established with such good effect, that, thereafter, fever was almost entirely banished from the place.*

VENTRICLE.—See *Circulation—Heart.*

VERDIGRIS—is an acetate of copper. It is prepared chiefly in the wine countries by acting upon plates of copper, by means of the husks and other refuse of the grape, which are made to undergo the acetous fermentation. Poisoning by verdigris sometimes occurs: it is to be treated in a similar manner to that from the sulphate of copper, or blue vitriol.—See *Copper.*

VERTEBRA.—See *Spine.*

VERTIGO.—See *Giddiness.*

VESICATION.—Blistering.—See *Blister.*

VESICLE—a little blister, or elevation of the epidermis or scarf-skin, by clear fluid. In the first stage the cow-pock is in the state of a vesicle, but in the later stages, when the clear fluid becomes turbid, like matter, it becomes a pustule.

Refer to—*Skin, &c.*

VICARIOUS ACTION.—Is action set up in one part of the body as a substitute for a similar action in another. It occurs chiefly in connexion with menstruation.—See *Menstruation.*

VINEGAR, or ACETIC ACID.—Acetic acid is the volatile acid principle, which diluted with water, constitutes vinegar. The acetic acid itself may be got very strong and concentrated by various chemical processes; it is also obtained of considerable strength by the destructive distillation of wood; when thus procured, it is named pyroligneous acid, or "wood-vinegar." Vinegar is a solution of acetic acid in water; it is of variable strength, and contains colouring matter, and usually, also, spirituous and etherial principles. It is prepared from wine, malt, sugar, cyder, &c., &c.; and also, as stated above, from wood. Except in the case of the last, it is produced by the acetous fermentation, which is carried on under a temperature approaching 80° Fahr.

The wine vinegars, or French vinegars, are made chiefly from the lighter wines by a careful process of fermentation. They are usually better and stronger than those of British manufacture, and more free from adulteration. British vinegars made from malt, sugar, &c., generally want the aroma of the French; most of them contain sulphuric acid, in the proportion of one thousandth part, as permitted by law, but sometimes in much larger quantity. Vinegars are also liable to contain metallic impurities, owing to the readiness with which they act on many metals with which they may come in contact in process of manufacture. These impurities are got rid of by the process of distillation, consequently a distilled vinegar, or acetic acid, is used for medicinal purposes. The addition of sulphuric acid to malt vinegar, is permitted, to counteract a tendency to pass into the putrefactive fermentation. The colour of the brown vinegars is generally imparted by burnt sugar. According to the investigations of the "*Lancet* Commission," it appears that the chief, and almost the sole adulteration of vinegar is by sulphuric acid, in excess beyond the legal quantity.

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* It is one of the saddest reproaches of the age in which we live that, as yet, no system of ventilation has been proposed that has not been found inefficient, and many thousands of pounds have been spent in attempting to ventilate public buildings without effect. The great desideratum, especially for hospitals and for manufactories where the artizans are often overheated, is to get efficient and proper ventilation without draughts. See Appendix, article "Air."

The domestic manufacture of vinegar is so simple, that those who wish it can easily render themselves independent of the manufacturer, and, indeed, many housekeepers do manufacture their own. It is not uncommon, at least in some parts of the country, to see standing near the fire, a large brown jar, tied over with a porous cloth, in which the process of vinegar-making is carried on by means of the "vinegar plant," as it is called. Of this plant, which is in the form of a large, flat, leathery fungus, Mr. Fletcher, a correspondent in the *Lancet*, gives the following account and mode of using. "Put the plant—a young one—in an earthen jar, add to it half a pound of the coarsest moist sugar, and half a pound of treacle, with five pints of milk-warm water; cover it lightly over, so as to keep out the dust, but not the air, and then put it in a moderately warm place; there let it remain seven weeks, not disturbing it more than you can help. At the end of that time, pour off what is now the clear vinegar, and keep it in well corked bottles for use. Again add to the plant the same quantity of water, sugar, and treacle, as before. At the end of the second seven weeks, the plant will have become like two thick pancakes, and they may be easily divided, care being taken not to tear the old or new plant. If the plant is exposed to the cold, or kept too long out of the liquid, it will become black and die." Another receipt is given in the *Lancet* as follows:—"For every gallon of hot water, take eighteen ounces of sugar, and when the syrup has cooled to 75°, add four per cent. by measure, of yeast. When the vinous fermentation is pretty well advanced, in the course of two or three days, rack off the clear wash from the lees into a proper cask, and add one ounce of wine-stone, and one of crushed raisins, for every gallon of water. Expose it in a proper manner, and for a proper time, to the acetifying process, and then rack off the vinegar, and fine it upon beech chips." It should be afterwards put into bottles, which are to be well corked.

The action of vinegar upon the system requires to be considered both in a medicinal and in a dietetic point of view.

The strong acetic acid is a powerful irritant, causing redness, and if long applied, blistering of the skin. It is also used as an external application to warts, corns, &c., which it often quickly removes, acting as a solvent of their albuminous and gelatinous constituents. When the strong acetic acid is employed as a solvent for aromatic essential oils, it constitutes the aromatic vinegar, or, as it was formerly called, "thieves vinegar." This preparation derived its name and its reputation as an antidote to contagious emanations, from its first having been used in the time of the plague, by those who wished to plunder the houses or persons of the dead or dying without risk. If they escaped, it was probably from the confidence inspired by the possession of such a supposed protection—for vinegar, of any kind, can afford no real protection against contagion: that is, it can exert no chemically destructive effect over the contagious emanations in the way that chlorine does. Nevertheless, vinegar, plain or aromatic, either sprinkled about, or burned in a sick room, is often agreeable and refreshing; only, its use should not be permitted to supersede more essential purifications. Vinegar, diluted with water, in the proportion of one or two tablespoonfuls to the half-pint, is used for sponging the skin in febrile diseases. It is also a good addition to gargles in sore throat. Before the more powerful astringent gargles are used, one-sixth part of vinegar may be added with advantage to the warm gruel or water gargle. It assists the separation of the tough mucus, which is apt to cling about the throat in such cases.

As an internal remedy, vinegar is but little used, it is however employed as a solvent of a few medicinal substances.—See *Squill*. As a dietetic condiment, vinegar is unquestionably useful and wholesome, more so, however, to some persons than to others. It is generally considered, in common with other vegetable acids, to promote the digestion of oily food, and probably there is something instinctive in its frequent addition to such aliment. But if, in moderate proportions, vinegar assists digestion, taken immoderately it is very injurious, destroying the digestive powers, and even inducing actual disease of the stomach. It is from this injurious effect

that vinegar has acquired
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tempts foolish people to
: for this purpose—the
oo strongly condemned†
flowers of the common
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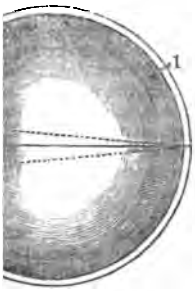

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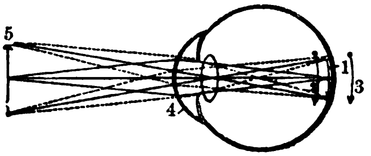
shade, and, perhaps, a
nfused idea of external
fer the perfect accurate vision we enjoy, other arrangements were necessary, consequently, we find the lens—3—suspended, as it were, in front of an exquisitely transparent jelly, which fills the cavity—1—and the space between the lens, and the cornea filled with transparent fluid. The result is, that the rays proceeding from external objects, in their passage through these various transparent substances, become so collected and arranged—fig. B—that by the time they reach the back of the eye, or the sensitive nervous retina, they form in it exact miniature pictures of external objects, the picture however being placed upside down. This, perhaps, will be better understood, by tracing the direction of the rays proceeding from the object—fig. B, 5—to the reversed image of it formed at the back of the eye—fig. B, 1. In addition to these arrangements for collecting and arranging the rays, there is superadded the iris—fig. A, 4—see *Eye*—in the centre of which is the aperture of the pupil, through which all the rays pass; and as the iris has the power of diminishing or enlarging this aperture, it acts as a regulator of the amount of light admitted into the interior of the eye. How it is, that, although images are formed in the retina in a reversed position, we see them correctly, is not at present satisfactorily explained.

B



Every one who has used a lens or magnifying glass, is aware that in order to see an object distinctly through it, it must be kept at a certain definite "focal" distance from the object: the same law applies to the eye; its lenses are so regulated, that the focal distance of most healthy, well-formed eyes, is the convenient distance of about ten inches; in other words, in order that an object such as print may be distinctly seen, that its image may form a distinct picture in the retina of the eye, it requires to be placed at the above distance. Now, the proper collecting and arranging of the rays of light which go to form the image of external objects in the retina in the interior of the eye, although they depend partly upon the *substance* of the transparent bodies, or

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membered, is only a diagram

Pharmacopoeia recognises acetum, or vinegar prepared from French wines; acetic
od by destructive distillation; glacial, or crystalline acetic acid; and dilute acetic
ne part of acetic acid to seven parts distilled water.

lenses, the rays pass through, depend also greatly upon the curves of the lenses; that is, if sight is to be perfect at a distance of ten inches; the curve of the cornea especially—fig. A, 2—B, 4—must bear a certain definite relation to the rest of the eye. It, however, occurs, that in many eyes, the cornea, instead of the usual curve, projects too much, is too convex, the consequence is, that the rays which pass through it from external objects placed at the ordinary distance from the eye, are too rapidly collected or brought together, so that, instead of forming the distinct or focal image exactly in the retina, they form it a little in front, as at fig. B, 2—and therefore confusedly. To remedy this, a person in whom the cornea is too convex, instinctively brings objects closer—sometimes very close—to the eye, as, by doing so, according to the laws of light, he causes the distinct image formed in the eye to be thrown further back, that is, to be formed in the retina, instead of before it. The condition is in fact that of "short sight." As, however, it is neither convenient, nor always possible, to approach objects close to the eye, it is usual to remedy the defect by the use of glasses, which, being made concave, the reverse of the too convex cornea, counteract the effect of the latter, by somewhat scattering the rays of light before they reach the eye. In old age, generally, the condition of the eye is exactly the reverse of the above, the cornea becomes flattened, so that instead of collecting the rays too quickly, it does not collect them quickly enough, consequently, the distinct image they form, or ought to form, will fall rather behind the retina, as at fig. B, 3—and the image in the retina will be indistinct. To remedy this defect, convex glasses or lenses are used, in the form of spectacles, &c., as they assist the cornea to collect the rays more quickly than in its flattened condition it is capable of doing. Such are the nature, causes, and rational modes of correcting some of the most common derangements to which vision is liable.

Vision may be interfered with by causes which obstruct the access of light to the nervous expansion or retina, or by those connected with the retina itself, or with its nervous communications in the brain.—See *Amaurosis* — *Brain*. In the former case, "specks," or opacities on the cornea, opacities of the lens, constituting "cataract"—see *Cataract* — inflammation, acute or chronic, may be the obstructing causes. But, whatever the case, or whatever the probable cause, when so delicate and valuable an organ as the eye is concerned, no time should be lost in submitting it to proper medical examination. For further information see *Amaurosis—Cataract—Eye.*

VIS MEDICATRIX NATURÆ, TENDENCY TO HEALTH, NATURAL POWERS OF RECOVERY, OR OF HEALING, are all phrases expressive of the same thing: of that power or tendency implanted in a living, organized body by its Creator, to restore to a state of order, whatever portion of its living organization may, by circumstances, have been thrown into disorder. By disorder, is here meant either what medical men call "organic disease," that is change of structure palpable or appreciable; or what they call "functional disease," or "functional disorder," in which the functions, of a part, only are affected, or in which if structure is altered, our means of investigation are not sufficient to enable us to detect the change, and we can only judge of the disease by its functional symptoms.

The existence of a power tending to health, of a vis medicatrix naturæ, has been recognised from the earliest times; but in what that power consists, medical men have never explained; it is, probably, connected with that principle of life which all created things derive from Him who made them. Without it the efforts of the physician or surgeon would be futile. The ends of the fractured bone might be placed in apposition, the edges of the wound drawn together, but in the absence of the vis medicatrix, they would remain so, only so long as retained in place by art, however long the artificial restraints might be applied. True it is that the natural tendency to cure may be much weakened—may be almost apparently absent—may be vanquished by the power of disease, and at last is vanquished by the power of death; but why and how this is, we know not, cannot know till we explain what that is which we call "vis medicatrix." Nay, further, till we explain the why and wherefore of disease, why each and all possess certain tendencies to disease, which may, sooner or later, according as they are favoured or not by circumstances, show themselves, and overcome the natural tendencies to health and order in our material systems. These things are connected with the deeper arcana of our being. In this place the question requires more practical consideration. Notwithstanding the recognition of the "vis medicatrix" from the earliest times, it has too often been lost sight of in the treatment of disease and injury, especially in former years; physicians and surgeons acted as if they were the real powers for restoring health, instead of only being the assistants of those powers, and in this way arose an artificial, officious of medicine, and a meddlesome y, from which the worst results en- The natural powers instead of being d were thwarted, and embarrassed or ned; if they did ultimately succeed wing off the disease, or in repairing jury, it only served to prove what the l powers could do even under such stances. In times gone by a gun-ound was treated with scalding oils, d, &c., &c.; it is now more simply ccessfully conducted to cure by the water alone.—See *Dressing*. To wounds, balsams and spirits of s kinds were applied, which now the plain water dressing quickly and ly get well; but, even now, so strongly idea of the healing power of plasters ined by the popular mind, that the f a wound is attributed directly to applications, which only fulfil the nical end of holding its edges to-, that is, of putting the injured parts a position that the natural powers ling can be exerted.

merly, small-pox, fever, and such s, were treated by stimulants within, the stimulant action of heat without, form of hot-rooms, closed curtains, ads of bed-clothes; and, as the re- f this, it is not long since the natural that would cure if they were per-, were weakened by indiscriminate g. Even now, numbers in this country think it possible to get rid of any without drugs.

hese observations, it is not meant to a the confidence of any in the cura- salutary powers of medicines, which e and real blessings; but it is in- to point out how, by losing sight too of the natural implanted power of g and throwing off disease possessed living body, injurious systems of s meddling prevailed. Indeed, it e, that at present the current has set ongly the other way, and many are ch inclined to be altogether sceptical the sanative powers of medicine. t need scarcely be said, is an extreme y vicious with the other which trusted alone. We know that the vis medi- aturæ, the natural tendency to health, g, and will often prevail even in the dverse circumstances; but we also hat it is often weak, that it fails to ne, or that whilst it is fighting the its resources, its "commissariat," peak, fails. In such cases we know sistance must be given from without e means, or agents, which He who he one power within the body, has endowed with powers capable of assisting that power, of aiding it in the combat.

Nothing, perhaps, makes the above remarks more obvious than the circumstances which occur in continued fever. This disease is generally admitted to be a continued state of disordered action in the system, in which—although at times the powers seem to be completely overwhelmed—the tendency is in a large number of cases to run a certain course, ending in recovery, or in the victory of the tendency to health over the acting causes of disorder. None, perhaps, are bold enough to profess to cure a fever—to profess to remove the disease by active treatment, either directly medicinal, or otherwise; and the man who attempts it will probably do so at the peril of his patient. The wise physician is content to leave to the vis medicatrix the removal of a disturbance, for which he can offer neither rational explanation nor method of direct cure. But if in eschewing all *active* interference, he defers to the power within, in rendering his assistance to that power, he fulfils a most important—a necessary office, and often assists to save a life, which the unassisted powers of the body must have lost.

The office of the physician in such a case is to preserve those outward conditions of health, which it is every man's duty to provide for himself when he has health and strength to do so, albeit these conditions now require nice management. The blood of the fever patient is disordered—poisoned—the office of the physician must be, by seeing that his patient draws pure air into his lungs, to facilitate the purification of the vital fluid: the exhalations of the body by the skin, &c., are depraved; he must see that by the removal of these, and of all things which can absorb and retain them, the diseased action is not assisted: the excretions into the bowels are depraved, offensive, morbid; the due evacuation of these must be attended to: the natural appetite and power of digestion is all but annihilated, but a process is going on within, which is consuming, burning up the framework, and may come to bear upon the vital tissues; to prevent this, the medical man must support strength by gelatinous soups, &c., which pass easily, and with little digestive effort, into the circulation; and, if the disease goes on, if the "vis medicatrix" is still combatting, and requires but a little time longer, if then all the available supplies for carrying on the ordinary processes of vital warmth &c., are exhausted, he must, with wine or brandy—alcoholic fuel—keep, almost artificially, the machinery at work. In such offices as the above, and many more, surely there is abundant room for the skill, the judgment, the interference, of a medical man, without his attempting to take into his own hands the office of that power which he cannot supersede, but which he may greatly thwart. In such a disease as fever, it is true, medicine, although often, or rather always, requisite, is not so to the same extent that it is in other diseases; but even in others, in which, such as neuralgia, we can often directly trace the removal of the disorder to the administration of the remedy, we can only look upon the power of the latter as the assistant to the natural tendency to cure. There are, it is certain, some diseases, such as cancer, which resist not only all efforts for their removal from within, but all the assistance we can give by remedy. Why it is so, we cannot tell; that they are thus "incurable," is, probably, because we are ignorant of the remedy which might give the assistance to the natural tendency to health, which would enable it to overcome the disease, just as there are certain obstinate ulcers, or affections of the skin, which resist many modes of treatment, and at last yield under the influence of a particular remedy—but yet to the remedy can only be ascribed the power of assisting.

The present subject has been dwelt upon, because, as already observed, from the extreme which at one time existed, of trusting all, or to say the least, too much to medicines, drugs, &c., there certainly has been a tendency in many to discard these altogether, and to trust entirely to the powers, the "vis medicatrix naturæ." As in most other things, in the medium will be found the best course; and he, probably, will treat disease most successfully, who endeavours, as in the free ventilation, &c., around the fever patient, to put the natural powers of resisting and casting off disease in as favourable a position as possible; who trusts those powers, but yet watches their operations, and who is prepared, with full confidence in the efficacy of medicines, to use them decidedly and actively, when rational ground for doing so appears.

There has been, undoubtedly, far too much trusting to drugs alone, and far too great neglect of the general principles of health, in the treatment of disease, but it is folly on that account to attempt to cast aside medicines altogether. If the Author of all things implanted in the living animal body a "vis medicatrix," he also endowed other substances with the capability of assisting that power. We can see how the neglect of the first was an error surely to ignore the last must be so too.

VITRIOL.—See *Sulphuric Acid and Sulphates.*

VOICE, or **Vocal Sound**—produced in the larynx—see *Lungs*—is the endowment of animals generally, and differs from speech, possessed by man alone; the latter, physically speaking, depending upon the formation and action of the parts about the mouth. Crying, singing, and the sound of speech, all depend upon the action of the larynx, which partakes of the characters of both a wind and of a stringed instrument. In some diseases, the alteration in the voice is very characteristic. In Asiatic cholera, it acquires a very peculiar pitch; in consumption, it is often of a remarkable hollow character; in some forms of disease, it may be almost lost.* See *Aphonia.*

Refer to *Cry of Children—Reading Aloud, &c.*

VOMITING—is the action of discharging the contents of the stomach through the gullet and mouth by muscular effort, or rather by a combination of muscular efforts. Formerly, it was imagined that vomiting depended upon "convulsive" action of the stomach alone; after that it was thought that the stomach was passive in the act, and that the pressure of the muscles of the belly, thrown into violent action, was the sole cause; it is now well ascertained, that both these agencies are called into play when vomiting occurs; that the stomach does, by the action of its muscular fibres, assist in the expulsion of its contents, but that its efforts are greatly aided by the muscles of the abdomen, including the diaphragm.—See *Diaphragm*. Every one is conscious, that previous to the act of vomiting, a deep inspiration is taken; by this the diaphragm is forced downwards towards the cavity of the abdomen, and being there fixed, or rendered tense, by the contraction of its own fibres, it offers a fixed point of resistance, against which the stomach can be pressed by the contraction of the muscles in the forepart of the abdomen. At the moment that this almost convulsive pressure is exerted on the stomach, and by the stomach on its contents, the muscular fibres at the "cardiac" junction of the stomach with the gullet—see *Stomach*—are relaxed, so as to permit of the passage upwards of the matters contained in its cavity, whilst, at the same time, the glottis is closed, so as to protect the larynx and air passages, as in swallowing.

Vomiting is frequently preceded by nausea—see *Nausea*—but not always; probably it is not so in the vomiting of infants which overfill their stomach, for nausea is a sensation which causes uneasiness and distress, and yet the little creatures gene-lly look remarkably happy whilst they lieve their stomach of the overload. gain, some persons, especially dyspeptics, ssess the power of vomiting at will, and n, without any feeling of nausea, dis- arge the contents of the stomach; neither there much, if any, feeling of nausea connected with the vomiting which sometimes llows coughing, sobbing, &c.

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* In cases of aneurism, or other tumour in the chest, pressing upon the nerves which go to supply the mechanism of the voice, a remarkable alteration of intonation takes place, sometimes accompanied by a peculiar change in the sounds of the cough, very familiar to the physician. The production of vocal sounds can now be more easily understood and observed since the introduction of the laryngoscope. See Appendix.

The causes of vomiting are very nume- ous. It may depend on local irritation of the tomach by bile, mucus, &c., or by indigestible ood, by medicine, or by poison; it may be xcited by the mechanical effects, and probably through the intimate nervous communication in cough, hiccup, sobbing, aughing, &c.; it is often sympathetic with nd symptomatic of disease or accident in istant parts, or of excited action in dis- ant organs, as in the case of the womb in regnancy, or in sea-sickness. Irritating r tickling the throat likewise causes vomiting. In some persons, disagreeable or peculiar tastes, smells, and even sights and ounds, will give rise to vomiting; mental emotion will produce it, and certain drugs, uch as tartar emetic, give rise to it if injected into the blood. At the onset of cute disease, vomiting is a common symptom. When a person becomes affected with vomiting, it is of course well to keep these various causes in mind; for though, in the majority of instances perhaps, vomiting depends upon disorder in the stomach itself, it must evidently be of much consequence to recognise it as symptomatic of disease, which is often of a serious character.

When vomiting has been preceded by symptoms of indigestion, or when it is of a bilious character, accompanied with furred tongue, &c., the probability is, that it depends upon the presence of bile or other matters. In such cases, if the natural process of relief appears inclined to be sufficiently energetic, it will be enough to assist by drinks of tepid-water or gruel, or of hamomile tea; if the action is not sufficient, an emetic—see *Emetics*—may be given to fulfil the natural indications. These ttacks of spontaneous vomiting from disorder of the digestive organs, are frequently ccompanied with diarrhœa, but when this does not occur, it is generally advisable to give aperient medicine in some form, and as he stomach often remains unsettled, nothing seems sooner to restore it than a few ffervescing draughts, either simple, or containing a tonic bitter.—See *Indigestion*.

Vomiting, however, may continue from imple irritability of system or stomach, fter the irritation in the latter organ has een removed; when it does, means for allaying that irritability must be resorted to, similar to those employed when the vomiting is the result of sympathy, as it is in pregnancy, &c., &c. In any case, obstinate vomiting is so distressing a symptom, and one so injurious to some patients, that it is desirable at all times to put a stop to it. For this purpose the remedies recommended are very numerous.

If there is offending matter on the stomach, which is the cause of the vomiting, it is of course useless to attempt to stop the latter till the former has been removed, as adverted to above.

As general remedies in vomiting, effervescing draughts are the most safely usable by an unprofessional person; also alkalies, or magnesia, if there is acidity; and with these it is advisable, at times, to combine a stimulant, sal volatile, or if calcined magnesia is used, a little sherry.[*] Creasote might be employed in emergency without medical sanction, but certainly not prussic acid, which is often so efficacious in proper hands. Besides internal remedies, assistance may be derived from external applications, such as three or four leeches to the pit of the stomach if there is much tenderness, or a mustard-plaster or blister;[†] position too, whether recumbent or not, may make considerable difference. It may be well not entirely to neglect the indication of appetite, or of any unusual craving for food of a particular kind; its gratification may stop the symptom. When vomiting comes on without obvious cause, and when it continues to recur, a medical man should be seen at once, for it may be symptomatic of serious disease. If, without obvious reason, it happens shortly after a meal, and especially if more than one person is affected, the possibility of poison is not to be forgotten.

Refer to — *Creasote—Emetics — Nausea — Poison —Sea-Sickness.*

WAISTCOATS, UNDER.—See *Clothing—Flannel—Wash-leather, &c.*

WAKEFULNESS. — See *Age, Old — Sleep, &c.*

WALKING—is the natural exercise of man, and for the strong and healthy it is the best. Even in the case of the debilitated and of the aged, it should not be neglected: no other mode of exertion diffuses the blood and accelerates its circulation so thoroughly throughout the body. The principal caution required for such persons is not to continue their exercise till exhaustion occurs. Children are not unfrequently injured and weakened in constitution by their daily exercise being a walk, too often carried to fatigue, especially in summer.

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[*] Ice may be tried in some cases, either alone or with a little sherry and soda water. The most obstinate omiting has sometimes been checked by sucking small pieces of ice. Twenty drops of solution of muriate f morphia, with the same quantity of sulphuric ether, may be given on a piece of lump sugar. This has ucceeded when all other means have failed.

[†] A third of a grain of muriate or hydrochlorate of morphia may be dusted over the blistered surface, if he patient is an adult.

When attainable, a play-ground in which rest and exercise can be taken alternately, and at will, is much preferable to the former. Any unusual peculiarity in walking, especially in children or young people, should not be permitted to pass unnoticed; it may be the first indication of spine or hip-disease.

Refer to—*Exercise.*

WALLS AND WALL-PAPERS.—The principal object, on the score of health, to be regarded in the external walls of dwellings is, that they shall be sufficiently thick for warmth, and not of such porous material as will too readily absorb or give out moisture. Some kinds of stone and badly-made bricks do this, and render dwellings unwholesome. The defect of outer-walls, either as regards material or thickness, may be considerably ameliorated by lathing and plastering within. In covering the inner walls of houses either with paint or paper, too little regard, perhaps, has hitherto been paid to the effect of the materials which are used on health. In another part of this work, it was stated that colours containing lead and arsenic have been found to affect injuriously the occupants of rooms to the walls of which they have been used. Moreover, as light exerts so strong an influence upon health, it is not unlikely that wall colours, especially in the variation from light to dark, may be found to do the same.

Wall-papers are of course liable to the same objections, and also to another connected with the size, by means of which they are attached. This will be best illustrated by the following " Hints on Paper-hanging," from a late number of *Household Words.*

" Many a fever has been caused by the horrible nuisance of corrupt size used in paper-hanging in bed-rooms. The nausea which the sleeper is aware of on waking in the morning, in such a case, should be a warning needing no repetition. Down should come the whole paper, at any cost or inconvenience; for it is an evil which allows of no tampering. The careless decorator will say that time will set all right—that the smell will go off—that airing the room well in the day, and burning some pungent thing or other at night, in the meantime will do very well. It will not do very well; for health, and even life, may be lost in the interval. It is not worth while to have one's stomach impaired for life, or one's nerves shattered, for the sake of the cost and trouble of papering a room, or a whole house, if necessary. The smell is not the grievance, but the token of the grievance. The grievance is animal putridity, with which we are shut up, when this smell is perceptible in our chambers. Down should come the paper; and the wall behind should be scraped clear of every particle of its last covering. It is astonishing that so lazy a practice as that of putting a new paper over an old one should exist to the extent it does. Now and then an incident occurs which shows the effect of such absurd carelessness. Not long ago, a handsome house in London became intolerable to a succession of residents, who could not endure a mysterious bad smell which pervaded it when shut up from the outer air. Consultations were held about drains, and all the particulars that could be thought of, and all in vain. At last a clever young man, who examined the house from top to bottom, fixed his suspicions on a certain room, where he inserted a small slip of glass in the wall. It was presently covered, and that repeatedly, with a sort of putrid dew. The paper was torn down, and behind it was found a mass of old papers, an inch thick, stuck together with their layers of size, and exhibiting a spectacle which we will not sicken our readers by describing."[*]

WALNUTS — are about as wholesome and unwholesome as nuts generally. The infusion of walnut-tree leaves has been highly extolled as a remedy in scrofula.

WARM BATH.—See *Bath.*

WARM FLUIDS.—See *Diluents—Heat, &c.*

WARTS—are enlargements of the papillæ of the true skin, and thickening of the covering epidermis or scarf skin. They are most usual in children, up to a little beyond puberty, and generally occur on the hands, sometimes on the face. In the latter situation, they are better not interfered with. When situated on the hands, they often disappear of themselves; when their removal is desired, strong acetic acid, applied every two or three days, is quite the best remedy; caustic, however, or tying, or cutting them off, are measures also resorted to. When a wart on the face, especially in those advanced in life, appears inclined to become ulcerated, or irritated, it ought to be shown to a medical man. It may require removal, from degenerating into cancer.[†]

Refer to *Skin.*

WASHING.—See *Ablution.*

WASH LEATHER, or Chamois Leather—is often serviceable when worn next the skin, as an under waistcoat, by those subject to rheumatism.—Refer to *Rheumatism.*

WASP.—See *Stings.*

WASTING.—See *Atrophy—Tabes.*

WATER.—This apparently simple fluid, considered by the ancients as one of the elementary or simple bodies, is composed of the two gases, oxygen and hydrogen, in a state of chemical combination, in the proportion of eight parts of the former to one of the latter, by weight. Chemists demonstrate the gaseous composition of water in two ways: they either decompose the fluid by means of electricity, and collect the two gases separately, or they form it by causing the two gases to unite in proper proportion. Indeed, the formation of water by the union of the gases, may be witnessed by any one in the moisture evolved inside a gas lamp, in consequence of the union of the burning hydrogen with the oxygen of the atmosphere.

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[*] The evils resulting from the use of wall papers coloured green by preparations of arsenic, are now become popularly notorious. See *Arsenic*, also Appendix.

[†] A few years ago the author met with the statement in a medical publication, that the administration, every morning, for three or four weeks, of a teaspoonful of ordinary carbonate of magnesia, would cause the disappearance of warts. He has tried it in various instances with success.

Water, when perfectly pure, is transparent and colourless, without taste or smell. It freezes at 32°, and boils at 212° Fahr. It is, however, impossible, perhaps, to procure perfectly pure water, except by the process of artificial distillation; even rain water, which is the purest natural water, although collected at a distance from human habitations, is found to contain traces of ammonia, and sometimes of nitric acid; if collected near dwellings, it is of course liable to contract much greater impurity. Nevertheless, rain water, being the product of natural distillation, that is, having passed into the atmosphere in the form of vapour, before its descent as rain or snow, is free from the saline and other impregnations which it necessarily possesses as soon as it has come in contact with the earth. It would require a volume fully to illustrate the important necessities and expediencies which water fulfils to creation generally, and to man in particular. Three-fourths of the weight of his body is composed of it, and a due supply of moisture is absolutely requisite for the performance of the functions of life, especially those of digestion and nutrition. As the body is continually suffering loss of its water by the action of the kidneys, skin, lungs, &c., so it is constantly in need of fresh supplies. These are furnished, mainly, by drinks of various kinds, but also in considerable quantity in the solid aliment. Wheat flour contains about 14 per cent. of water, fresh meat about 75, and cow's milk about 87 per cent., and other things in like proportion.

With the exception of air, no necessity of man's living existence, perhaps, exercises more powerful and direct influence for good or evil, than the water he imbibes; indirectly, also, it affects his moral condition, whether considered as a beverage, or according to its economic uses. Notwithstanding, however, the acknowledged utility in every way of a free supply of pure water, it must be considered not only an anomaly, but a disgrace to the boasted civilisation of the first half of the nineteenth century, that so little attention has been given to supplying the people with this necessary of healthful existence, physical and moral. In their provision for water, the ancients, far, very far, surpassed the moderns, as the remains of their magnificent aqueducts testify, and bestowed great care and expense on the means of procuring it pure. As stated above, rain or snow furnishes water freer from impurities than that procured from any other source; the absence of all saline impregnations especially, renders such water peculiarly well adapted for cleansing purposes, it dissolves soap easily and readily, not curdling it as the hard waters do. As rain water is seldom used for drinking, on account of its vapid taste, its having run off lead-covered roofs, is comparatively of less consequence, but as it may be used for cooking, it should be borne in mind, that it may acquire poisonous impregnations from the above source.

Rain water which has descended upon, and entered the earth, becomes, as stated above, impregnated with impurities of various kinds; these vary according to circumstances; they are classed as mineral, or saline, and as vegetable or animal impurities. There may also be impurities which are wholly dissolved in the fluid, and others which are merely mechanically suspended; the latter are capable of being completely separated by filtration, the former are not.

The most important and generally abundant saline impurity in water, is the bicarbonate of lime, from which hard water chiefly derives its character; besides this salt of lime, however, there are also often present bicarbonate of magnesia, and sulphate of lime, bicarbonates of soda and potash, common salt and iron; the latter impurity, however, is not very common, except in mineral springs; when it does occur in a commonly used water, it gives an inky taste, and causes a yellowish tinge in clothing washed in it.

The earthy salts, that is those of lime and magnesia, are the chief sources of hardness in water; excess of carbonic acid and the presence of iron are occasional causes not often met with. Filtering such water does not in any way modify its hardness. When the hardness of water arises from excess of carbonic acid, exposure to the air in great measure removes the inconvenience, and also does so slightly in water rendered hard by the presence of the bicarbonates of lime or magnesia; such waters, however, are softened in some degree by long boiling, which causes the separation of the salt of lime or magnesia, in the form of an insoluble carbonate; this is in fact the chief constituent of the crust or "fur" which forms inside boilers, kettles, &c., in districts where the water is hard. It is said that when it is desired to remove this fur, it may be done by boiling in the vessel a solution of muriate of ammonia.

The separation of the earthy salts may be effectually accomplished by the process patented by Dr. Clarke, of Aberdeen.

This process is based upon the following:—

The bicarbonate of lime,* that is, lime in combination with two parts of carbonic acid, is soluble to a considerable extent in water, and is thus dissolved in hard waters generally. Again, lime or quick-lime, which has been entirely freed from carbonic acid, is also soluble in water—see *Lime*—but when lime is in combination with one part only of carbonic acid, it is perfectly insoluble, being then in a state of chalk. It will now be evident, that if the clear solution of quick-lime, that is, of lime without any carbonic acid at all, is mixed in proper proportion with water which dissolves lime, combined with two parts of carbonic acid, and that if that which has no carbonic acid takes one part from that which has, an insoluble carbonate will be formed, and fall to the bottom, leaving the water free, or nearly so, from lime, and thus the hardness will be removed. The annexed will probably make the above somewhat more intelligible.

Soluble Bicarbonate of Lime.	Lime . .	1	Mixed in the water, divide the Carbonic Acid, and form two parts of insoluble Carbonate of Lime, which falls to the bottom.
	Carbonic Acid .	2	
Soluble Quick-Lime	Lime . .	1	

Those who desire more information on the above important process, will find it detailed in the excellent report of Dr. Clarke given before the Parliamentary Commissioners. The same gentleman speaks strongly of the importance of a due supply of soft-water, especially to the poorer-classes; and remarks, that owing to the additional expense in soap, and to the extra wear and tear of clothing when the washing is done in hard water, habits of cleanliness are discouraged both as regards clothes and person. It may be remarked, that hard waters are far more frequent either from streams or sunk-wells; and that springs, especially from the surface of hilly or dulating countries, are often extremely s such springs being in fact supplied surface water—that is water which has o percolated through the upper strata, a has not passed through those which furn the deeper springs, with their saline, li and magnesia impregnations.

For purposes of drinking and cooki and especially the former, the importan to a population of a due supply of goo pure water, cannot be over estimated. the water is impure, it either injures t health, or drives people to take it in com bination, too often with spirits, or und other forms, and thus engenders habits o drinking. It is, indeed, not improbabl that many of the artificial drinks have bee resorted to solely as substitutes for bad water. In the choice or appreciation of a drinking-water, people will, perhaps, be greatly guided in their judgment as to pleasantness by the nature of that to which they have been accustomed. As a general rule, however, most people prefer a water which contains a slight amount of mineral ingredient. At the same time, those who have habitually drank even very hard water, do not at first relish that of a softer character. Water which has been drawn for some time, becomes, as all know, unpleasant and vapid; this is often accounted for by the loss of carbonic acid, or air, which most water contains naturally, but Dr. Clarke denies this cause, and attributes the change to increased temperature. Another, and probably more powerful cause of the acquired unpleasantness than either of the above, is the facility with which water attracts atmospheric impurities and exhalations, and there are generally sufficient of these to be met with.

A small amount of mineral ingredient may not be, and probably is not, injurious; but water containing any great amount, cannot be regularly consumed without risk to health, although more to some constitutions than to others. It is tolerably certain, that the origin of "Bronchocele" is connected with the presence of lime and magnesia salts in the waters of the districts in which the disease prevails. Dr. Paris says, "We have known patients after drinking a glass of water, from a sense of weight and oppression at the stomach, at once pronounce the existence of foreign ingredients." Dr. Prout remarks, "With respect to waters, it may be observed, that hard and impure waters possess great, and generally very unfavourable, influence in urinary diseases." Bad as hard waters may be, those impregnated with decaying vegetable or animal matter of any kind, are beyond comparison worse, and are fertile sources of disease. Indeed, there is every evidence to show that fever may be directly originated in a locality, from the drinking water of the inhabitants being contaminated with decaying substances, and also that the predisposition to attacks of malignant cholera is greatly increased thereby. Dysentery is another disease which has often originated from drinking bad — especially marsh-water. Such water often contain insects or animalculæ. From these, and from mechanical impurities, it may, however, be freed by filtration.—See *Filter*. It ought also to be remembered, that though the water may be good when drawn, if it be preserved in bad receptacles, such as butts, the wood of which is decayed, in cisterns lined with lead, on which the water acts—see *Lead*—or where it is exposed to contract impurities from the atmosphere, a really wholesome fluid may be converted into an unwholesome or even poisonous one.

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* As the same demonstration belongs to magnesia, which is moreover much less important, and less abundant than lime, the latter only is mentioned on account of brevity

It is perhaps going too far to say, that man should never drink anything but the natural beverage provided for him; that it is the only wholesome, *regular* drink of healthy men, is certain, but to contend that it never should be varied, is inconsistent with the law which seems so general, that change within certain limits is more beneficial than unvarying uniformity. Moreover, if water be the most abundant natural beverage, milk and vegetable juices furnish others in great abundance, and there can be no question that tea and coffee are providential provisions for man's health and comfort.—Refer to—*Tea*—*Stimulants*, *&c.* At whatever other times water is drank, and in whatever proportion to other beverages, it is never more beneficial to the majority of people than on first rising in the morning; then, a draught of pure fresh-drawn water is a most admirable persistent tonic, which may be continued a life through; it has, too, the advantage of stimulating the bowels, and assists to keep them open. Some few persons of weak digestive and nervous power, cannot take a large draught though they may a small one. Another most wholesome period for a good draught of water, with persons of tolerably good nervous power, is just before dinner. Many, however, commit the error of drinking water too largely with their meals. This acts injuriously by washing down the food insufficiently masticated, by giving a sort of artificial appetite, so that more than enough is consumed, and injures digestion by lowering the temperature of the stomach. Too large a draught of cold water when the body is heated—especially if exhausted—it is well known is apt to prove serious, perhaps fatal.—See *Shock*. In disease, both as an external application—see *Ablution*—*Affusion*, *&c.*—and as an internal remedy, water is most valuable; and, indeed, in febrile diseases attended with much thirst, may be allowed largely with the greatest benefit. Moreover, pure cold water is generally preferred, at least for a time, to all the artificial drinks. There is among the poor, and even among others, an unaccountable prejudice against allowing the sick to drink cold water. There need be no fear when it is craved by feverish thirst, indeed few febrifuges excel it as a remedy.

In conclusion, other sanitary arrangements and regulations are comparatively useless, without a good and easily accessible supply of pure water; without it, cleanliness in person, or clothes, or house, is impossible; sewerage arrangements cannot be properly carried out, and, in short, welfare, both physical and moral, it might be said spiritual, depends upon it.

Refer to—*Diluents* — *Baths* — *Cold*—*Heat*—also to sanitary articles generally.

WATERS, MINERAL. — A mineral water is one which differs from the fluid as it usually flows from the earth, in possessing, naturally, sensible taste or smell, or a higher temperature than ordinary.

Mineral waters are usually divided into Saline— Chalybeate — Sulphureous — Acidulous—and Hot. The principal mineral springs in Britain are adverted to under separate articles in the present work; those who desire more information will find it in the useful publications of Mr. Lee on the Watering Places, Baths, &c., of both this country and the continent.[*]

WATER-BEDS AND CUSHIONS.—See *Bed, Elastic.*

WATER-DRESSING.—See *Dressing*.

WATER-BRASH—PYROSIS.—Is a disorder characterized by copious vomiting of clear fluid—either sourish or tasteless—from the stomach. It is a frequent accompaniment of chronic indigestion, and those who live much on innutritive vegetable food are peculiarly liable to it. Before the fluid is brought up, there is often pain, more or less severe, experienced at the pit of the stomach. Improved diet, and the treatment of indigestion generally, are the most suitable measures. Under article "Saliva," an affection which is generally confounded with water-brash is alluded to.[†]

Refer to—*Indigestion*.

WATER IN THE CHEST—is the effusion or throwing out of the watery or serous portion of the blood into the cavity of the pleura between the lungs—see *Lungs*—and ribs. Such an occurrence may be the effect of two different causes; the most usual, especially when the water forms rapidly, being inflammation of the pleural covering of the lungs, or pleurisy.—See *Inflammation*. In this case the effusion of fluid is usually confined to one side of the chest.

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[*] See Appendix.—Health Resorts.

[†] The following can be highly recommended to those who suffer from this annoying affection:—White bismuth, 12 grains; aromatic powder, 5 grains—mix. The powder to be taken twice a day in a little milk.

Water in the chest, however, especially in the aged, may be caused by affection of the heart or lungs, and obstructed circulation, in which case it often occurs on both sides, and is accompanied with other dropsical symptoms. — See *Dropsy*. The difficulty of breathing, caused by a collection of water in the chest, is often extremely distressing, and is liable to be aggravated or relieved by particular positions of the body. When the effusion is large, it very perceptibly bulges out the side on which it is situated. When there is air as well as fluid in the cavity, slight shaking of the body causes a very audible splashing sound. These symptoms, however, more generally follow after pleurisy.

It is not likely that an unprofessional person could detect the presence of water in the chest; suspicion of such being the case, should at once cause proper medical assistance to be sought; in the meantime, the palliative remedies recommended in "Dropsy," may be resorted to, and if the breathing is very distressing, and the patient not very debilitated, a large blister may be applied over the chest, as a means of affording temporary relief.

Refer to—*Dropsy—Lungs—Inflammation*.

WATER IN THE HEAD.—See *Brain*.

WATERSTROKE. — A rare form of "water in the head," characterized by its very sudden development. It has invariably proved fatal.—Refer to *Brain*.

WAX—is a secretion of the bee, formed from the sugar which it collects, or with which it may be fed, and is not, as usually has been imagined, formed from the pollen or flower-dust. When first formed it is said to be quite white, becoming yellow from contact with the honey. In this yellow condition it is, when the combs are melted together, the common bees'-wax of the shops. It is, however, purified and bleached for medicinal purposes, and is then generally met with in the form of round white cakes. Wax is now only used in medicine in the formation of, and for giving consistence to, plasters, ointments, &c.[*]

WEANING. — The weaning of infants must depend upon two considerations, the condition and health of the mother or nurse, and the age of the child. If the mother be in such a condition of health that she cannot nurse her infant, with benefit either to herself or it, weaning of course must take place at once; but in the generality of cases, the proper time is about the ninth or tenth month, when the first four teeth have appeared. Indeed, the development of the teeth may be taken as the signal that other food is required; if, therefore, their appearance is delayed, suckling may in most instances be prolonged, for the reason, that the late appearance of the teeth is frequently associated with delicacy of constitution, and then it is desirable for the child to be kept longer at the breast.

Previous to weaning, the child should be gradually accustomed to other food. It is desirable for weaning to take place in fine weather, when the infant can be carried a good deal out of doors. Should disorder of the bowels or other symptoms of illness arise, it must be managed as recommended under article "Children," to which the reader is referred.

Refer also to—*Nurse*.

WEATHER.—See *Climate—Seasons*, &c.

WEEPING EYE—is the flow of tears over the cheek, in consequence of the lachrymal sac and passage into the nose being obstructed.

Refer to—*Eye*.

WEIGHTS AND SCALES — are most necessary adjuncts to the domestic laboratory, &c. As all, probably, are aware, the weights used in the dispensing of medicines are special for the purpose, constituting apothecaries weight. In apothecaries weight the pound and ounce are the same as in Troy weight[†] that is to say, the pound contains 5760 grains, or twelve ounces of 480 grains each. Instead, however, of the ounce being divided into pennyweights, it is divided into eight drachms or drams, of sixty grains each, each dram containing three scruples of twenty grains each. The following table illustrates these divisions, and also the peculiar signs of the various divisions employed by medical men :—

	Symbol.		Grains.
One pound . .	℔ .	12 ounces	5760
One ounce . .	℥i .	8 drams	480
One drachm or dram	ʒi .	3 scruples	60
One scruple . .	℈i .	20 grains .	20
One grain . . .	gr. i		

The weight itself is simply signed thus, ℥ ; the additional mark thus, ℥i, stands for one, or thus for ℥ij ; so with grains, it is gr. i, or gr. ij, or gr. iii, as the case may be. When it is desired to express half a weight, it is written thus, ʒ ss, or ℈ss. The weights themselves are always made of brass, the grains in thin plates stamped with as many dots as they weigh grains, the heavier

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[*] Wax is sometimes used in the form of what is known as "wax dressing," when it is thought desirable entirely to exclude the atmospheric air from the surface of a sore.

[†] For the alterations introduced into the British Pharmacopœia, see Appendix, article Pharmacopœia.

ith the character of each: weights,
re made, the grains with the num-
ures, and the others with both
d the name legibly stamped upon
nprofessional persons, who may
who may become confused with
cters, will find it more advan-
provide themselves with weights
er kind.

les employed for dispensing medi-
enerally of brass, and should be of
nt small size, care being taken to
hat they weigh true. After these
e been used, they should always
iped, otherwise they are apt to
rroded. On account of this ten-
e scale "pans" are sometimes
ass, and also of the metal platinum;
ormer are of course liable to get
d the latter are very expensive.
e requisite; the brass are perfectly
with the most ordinary care.

–The popular name for a tumour[*]
when situated about the throat.
nour.

T.—See *Bread—Grains, &c.*

.—See *Milk.*

-LEG.—See *Leg.*

-SWELLING.—See *Knee.*

S—called by medical men *Leu-*
-This extremely common and
ne female discharge may occur in
of constitutional conditions and
nces, but more generally it is as-
ith general debility, and almost
o, if it has continued profuse for
of time. For the latter reason,
ot, as too often is the case, to be
for not only may the constitution,
l health and strength, be fatally
it, but a comparatively mild and
oveable affection, may be con-
o one of an inveterate and serious

ortance of these remarks may be
when it is stated that Dr. Ashwell,
highest authorities on these sub-
. "Of all the diseases peculiar to
here is none so common. Few
women, particularly if they are
scape its attacks." By the same
the varieties of the affection are
nto the mild, acute form, accom-
ith more or less inflammatory
the chronic and inveterate or
established leucorrhæa; and the
mptomatic of other diseases, as of
, &c.

e or inflammatory form of "whites"
in those who are in tolerable
e symptoms being so mild that
ither unattended to, or are quickly removed by rest in every sense of the word, local and general, by cleanliness, and by such antiphlogistic means as reduced diet and gentle aperients, especially mild salines, with perhaps one or two doses of grey powder, at bedtime.

In those of plethoric habit, especially in the middle periods of life, the inflammatory symptoms may be of greater severity, requiring the above treatment to be more vigorously carried out, and combined with fomentation, hip-baths, and leeches; at the same time, in such cases, whether mild or severe, it will be advisable both to cleanse and soothe the internal parts, by the use of tepid water and a syringe. When any inflammatory symptoms have disappeared, some astringent wash may be substituted for the simple water, and used either cold or tepid, whichever appears to be most beneficial. Some of the forms of lead lotion—see *Lead*—answer well; or one made with five or six grains of sulphate of zinc to the ounce of water; or an alum wash in similar proportions to the last, or decoction of oak bark, or of green tea; in short, any mild astringent. It must be remembered, however, that in all cases, the strictest cleanliness is absolutely requisite, both as prevention and cure. Indeed, the neglect of this is one of the most frequent causes of the disease. When whites occur in a weak individual, they may, being unaccompanied with any inflammatory action, require the use of astringents from the first, with tonics, mineral acid, quinine[†] and iron with good diet, and wine, or malt liquor, probably also tepid or cold salt water hip-baths. The bowels in all such cases require strict attention, and should be regulated by castor-oil, rhubarb and magnesia, or by cool clysters. In tolerably strong habits, small doses of Epsom salts, in combination with sulphuric acid, answers extremely well. Due attention should of course be given to exercise, and rest at night must be taken upon a hard bed.

In the milder attacks of leucorrhæa, a little well applied domestic management will often be sufficient to remove the symptoms, but when these become in the least urgent, a medical man ought to be consulted, before the disease becomes habitually local: to allow of its continuance, from motives of mistaken delicacy, or from carelessness, is a serious, it may be a fatal mistake; for, as stated above, its continuance gradually undermines the powers of the constitution, and dropsy, consumption, and other diseases of debility, may be originated in consequence. Moreover, when family is desired, the wish is not so likely to be accomplished

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osnd tumours so common on the head are also in some parts called wens.

ite of bebeerine, a tonic remedy, is by some thought to be specially useful in the treatment of as long as the discharge continues, and miscarriage is more liable to occur. The ordinary function of menstruation, moreover, is apt to become deranged.—See *Menstruation.*

As a further reason for submitting continued or severe cases of the affection in question to the care of medical men, is the fact of the white discharge being at times symptomatic of disease connected with the womb. Sometimes, however, it is the result of irritations in the bowels, caused by accumulations in them, and sometimes by worms. To sum up, it should be remembered, that the disease is often the result of neglect, and want of sufficient cleanliness; that it may occur in a form more or less inflammatory, when it requires soothing remedies; that after the inflammatory stage, and often without it, especially in the debilitated, it requires astringent and tonic treatment, rather than relaxing; that if neglected, it is liable to become an obstinate disorder, and, by its continuance, seriously to injure the constitution, and that it may be symptomatic. Lastly, that in all but the mildest cases, the nature of the disease requires proper medical treatment, and perfect rest in every sense. This article cannot be concluded without the fact being alluded to, that the occurrence of the disease in its aggravated form, and the occasional consequences it then gives rise to, have been the means of raising unfounded suspicions of moral impurity, and of creating discord where it ought not to exist. Never ought such ideas to be entertained for one moment in the mind, still less given in words, except when based upon the careful examinations and opinions of more than one medical man.

Refer to *Menstruation.*

WHITEWASHING—by means of lime, is one of the most powerful means of general household purification which it is possible to employ, especially on the large scale on which such purification is often required in the dwellings of the poorer classes, particularly in towns. Lime absorbs powerfully the carbonic acid from the atmosphere, and in this, and probably in other ways, tends greatly to remove the most fertile sources of disease.

The effect of whitewashing with lime in this way, could not be more strikingly shown than it was in one of the recent epidemics of fever in Edinburgh. According to Mr. Ramsay's Report to the Commissioners of Police, "The business of whitewashing was commenced on the 14th of September, and continued to the 30th of October, and less extensively up to the 14th of December," during which period, he states there were washed—

"690 staircases,
1531 passages,
2120 apartments, exclusive of
1212 places cleaned previous to that date, making a total of 5553 different places, at a total expense of £77." Mr. Ramsay further states, "The effect of these lime-washings on the epidemic has been matter of great interest to myself; and I have watched with the most anxious care to ascertain whether any new cases of fever occurred in dwellings previously subjected to purification; and I have pleasure in saying, that out of a great number of cases reported to me, with two exceptions, the whole turned out to be cases of relapse."

Beyond these, Mr. Ramsay failed to discover any other cases. The above is strong evidence. It might render it a question for boards of guardians and others, whether, to supply gratuitously every necessitous occupier of a house with lime sufficient to whitewash once, if not twice a year, might not be real economy, and diminish poor-rates, as well as disease. Moreover, it has been pointed out, that free light, and light-coloured walls, tend to promote health; in this way, the white colour of lime-wash must be an additional counter-agent to causes of disease.

Refer to *Houses—Light—Walls.*

WHITLOW—is abscess of a finger or thumb, but in this situation is rendered extremely distressing, and even serious, as regards the use of the member, in consequence of the matter being generally confined by the firm skin, and subjacent firm fasciæ or fibrous membranes which are connected with the tendons, by means of which the fingers are moved. The matter often has great difficulty of reaching to the surface, and of being discharged, and probably lies next the bone. The consequence of all this, especially if the inflammation is very acute, is to give rise to disease of the bone, or to mortification of the finger generally; in either case, the member is rendered worse than useless, or requires amputation. Whitlows are certainly more common in those who employ their hands in hard labour, also in cooks and individuals who are exposed to wounds from bones, &c.

The symptoms are deep-seated throbbing pain in the affected member, which continues increasing till it becomes almost intolerable, the finger feels "ready to burst," and if examined, the skin is found tense and hard, and more or less inflamed. If nothing be done to remedy this state of things, the symptoms increase, the whole arm is affected, is more or less swollen and nflamed, especially in the course of the bsorbent vessels—see *Absorbent*—and the lands in the arm-pit are swollen and pain- ul. At last the matter finds exit some- here by the skin being ulcerated, not nfrequently about the nail. When this appens, there is relief to the severe symp- oms, but probably so much mischief has een done to the member, that the results bove described—mortification or death of he bone and the finger—occur, and it is st. To prevent such a serious conse- uence, it is needless to say that active easures should at once be resorted to, and e case seen by a medical man as soon as ossible.

On the first symptoms of whitlow occur- ng, however, the disease may in some cases arrested at once, by thoroughly rubbing er the whole of the affected member with nar caustic. This proceeding, however, ust be resorted to *at once*, and accompanied ith reduced diet and active purging, blue ll and black draught. It must be con- ssed, too, it is more efficacious in those the in of whose fingers has not been hardened labour, and in whom the disease is gene- lly least severe. Quite the most efficacious oceeding in whitlow, when there is evi- nce of matter having formed—see *Inflam- ation—Pus*—is to lay open the finger down the bone, by means of a lancet or knife; is proceeding, of course, ought to be done a medical man if possible, but, under rcumstances, it might be resorted to by unprofessional person. It is certainly tended with great momentary pain, but ves otherwise very great relief, and often ves a finger; after it is done, the ordinary atment of abscess, poultice and water essing, will be requisite. When from nidity on the part of a patient—although loroform might certainly be used—or her cause, a whitlow is not opened early, e only proceeding is to poultice assiduously t the matter finds vent, to support the nd and arm in a sling, to regulate the wels, and to soothe the excessive suffering opiates. After the matter is discharged, ultice for a short time, followed by water essing, will be most suitable, if the finger saved. In some of these cases, the simple ultice or water requires shortly to be changed for a more stimulating and tringent application. None answers better an tincture of myrrh, in the proportions from two drachms to one ounce to the lf-pint of water.

WILLOW-BARK.—See *Salicine.*

WIND.—See *Flatulence.*

WIND-PIPE.—See *Lungs.*

WINE—strictly speaking, is the fermented juice of the grape alone It, or rather sherry wine only, is used medicinally to form a vinous tincture, or "wine" of various drugs. The most commonly used preparations are the wines of aloes, of antimony, of colchicum, of ipecacuanha, and of opium.—See *Articles.* For the dietetic properties and uses of wines, the reader is referred to *Stimulants.*

WISDOM-TOOTH.—See *Teeth.*

WOMB — in medicinal language the *Uterus.* This most important organ is, in its ordinary condition, situated in the cavity of the pelvis, but when distended, as in pregnancy, it rises into the cavity of the abdomen.—See *Abdomen.* Somewhat triangular in form, it is covered by the general lining membrane of the abdomen and pelvis, the peritoneum, and is held in its place by various ligaments. The affections of the womb may be considered as those which are connected with the state of pregnancy.—see *Pregnancy*—and those which are not. In the latter case it is liable, though rarely, to be the seat of inflammation, the affection being characterized by the usual symptoms of inflammation local and constitutional, and requiring the same management as in flammatory affection—peritonitis—of the bowels generally. Congestion of blood, enlargements, tumour, and polypus; diseases of its neck, including cancer, &c., are among the affections to which the womb is liable. It is also exposed to displacements, dislocations as it were, from before backwards, or the reverse; and likewise to coming or "falling" down, or as it is called "prolapsus." The latter occurrence is the most usual after the time of child-bearing is past, in women who have borne large families, and especially in those who have neglected themselves after confinement, by getting up too soon; it is therefore a frequent complaint among the lower orders, who are in a measure forced to neglect themselves under the circumstances. The falling, or prolapsus, of the womb is permitted by general laxity of the parts, but especially of the ligaments which ought to retain the organ in place; it is further aggravated by the congested and enlarged state of it, which thence results. Such a state of matters cannot be too soon rectified, and by all means ought to be placed under the management of a medical man, who will recommend such an one of the various instruments contrived for such cases, as may appear most suitable. In the meanwhile, rest in the horizontal posture, and general soothing treatment, are the best palliatives; and if, in the meantime, circumstances render it impossible for the individual to remain quiet, comfort will be derived from the use of such a bandage as represented in article "Prolapsus." The other displacements of the womb, backwards or forwards, are more usual in its enlarged condition; in pregnancy especially, the former is often the result of permitting the bladder to become unduly distended, so that by its weight it presses the womb out of place, and into such a position that it cannot easily recover itself. In these, and indeed in all affections of this organ, the assistance of a medical man cannot be too soon procured; domestic treatment can do little or nothing for their permanent relief, although it may, if properly directed, palliate considerably the more urgent symptoms. The affections of the womb may of course develop with greater or less rapidity; some are sudden in their onset, and urgent in their symptoms; others arise almost imperceptibly, and go on slowly. In most cases, however, there is sense of uneasiness and dragging weight about the parts, perhaps actual pain of more or less severity; the functions of the bladder may be interfered with, and irritability or difficulty occasioned; or difficulty or pain be experienced in emptying the bowels. Under some circumstances, discharges of blood or matter may take place.—See *Menstruation —Whites, &c.* The constitution may more or less sympathize, and irritable fever arise, or obstinate vomiting, or dyspepsia, with excessive nervous irritability and hysteria. Under circumstances, when symptoms like the above, or others suspected to be in connexion with the womb, show themselves, an individual can scarcely err in assuming, if possible, entirely the horizontal posture; if there is much pain, and especially any symptoms of feverishness, fomentations to the lower bowels, perhaps leeches may be used; and when the suffering is great, opium given by the mouth or in clyster; at the same time, the strictest attentions must be paid to the due action of the bowels by means of castor-oil, senna, &c., or in full habits by salines, perhaps following moderate doses of blue-pill, but all preparations containing aloes must be sedulously avoided. Clysters of cold, tepid, or warm-water simply, or rendered more aperient by the addition of medicines, are often useful. The diet must be regulated according to the habit and constitution of the patient; if this be full, a reduction, especially, in stimulants may safely be made; but if the habit be moderate, the diet may be kept so too. In the weakly and debilitated, it may require to be increased, especially if there is any drain, such as discharge of blood, &c., going on.—See *Abortion—Menstruation—Whites, &c.* Th above are palliative measures, which may be safely resorted to under most circumstances; they are, however, palliative only curative means can only be carried out by a medical man, under whose care all affections of this organ, so closely connected with female health, happiness, and well being, should be placed without delay—without waiting for serious symptoms to arise. Moreover, it should be remembered that there are states of impaired health, o a dyspeptic and nervous character especially, dependent on uterine derangement which in itself gives no marked sign.

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* Omitted from British Pharmacopœia.

In some affections of the womb, it becomes absolutely necessary for a medica man to resort to means of examination which, though they cannot fail to be highly repugnant to the feelings, no woman of truly delicate and pure mind would object to, when it has been fully explained to her by a professional attendant in whom her confidence is placed, that such examination is positively required. It may be that the zeal of some has led them to disregard, perhaps too much, the feelings of patients suffering from these peculiar diseases, and to be too ready to avail themselves of all means of investigation, but these are the exceptions.

WOMAN.—See *Child-birth—Education —Menstruation—Pregnancy—Whites, &c.*

WOOD-SORREL.—See *Oxalic Acid.*

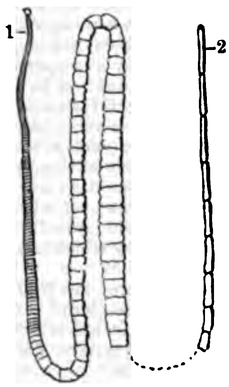
WOOL AND WOOLLEN CLOTHING.—See *Clothing.*

WORMS.—There are various parasitic animals which infest the human body; some, such as the acari, occupying the external surfaces only, whilst other called by medical men "Entozoa," are developed and live in the interior of the body. Of these the commonest and best known are the five species of "worms" which infest the alimentary canal. They are the common round worm; the thread, or maw, or chest-worm; the long thread-worm; the common tape-worm, and the broad tape-worm.

The common round worm of the intestines was for long confounded with the common earth-worm, although it is difficult to imagine how it could be. It is firmer in substance, and much more acutely pointed at both ends than the latter, of a paler yellowish pink, and more transparent. Its length varies from a few inches to a foot. This worm is more common during the early periods of life, and exists in many children without giving rise to any apparent disorder, unless it is developed in great numbers; very frequently, perhaps, after a dose of aperient medicine, a round worm is passed from the bowels by a child in whom such a parasite was not suspected to exist. The occurrence not uncommonly causes much needless alarm; a very large number of children, to all appearance well, are so infested, and the excretion of one worm is no proof that there are more. At the same time the occurrence should always give rise to investigation, and to the employment of remedies calculated to remove any more of the animals which may exist. The usual site of these round worms is in the small intestines, but, occasionally, they find their way into the stomach, and are vomited or got rid of by the mouth—most commonly they pass off by the bowels.*

The thread or maw, or chest-worms, are familiar to most persons; they resemble long maggots, or bits of white thread, and are very lively in their movements when first expelled. These worms usually infest the lowest bowel, or rectum, in which they often exist in immense numbers, passing off with every evacuation, either separate, or rolled in masses; they also creep from the bowels; they are found too, occasionally, in the upper part of the alimentary canal; hence the name of chest-worm popularly given. In this case the worm is coughed or "hawked" up. The thread worm is most commonly met with in children, but also occurs in adults, especially such as are weak and unhealthy. The long thread-worm does not occur in the immense numbers of the smaller variety, but seems to exist in most persons without causing much inconvenience. The tape-worms are quite the most formidable, and produce the most serious consequences of any of the intestinal parasites. The broad tape-worm occurs chiefly on the continent; the common tape-worm—fig. A—which is usually met with in this country, grows to many feet in length, extending, indeed, at times, almost throughout the entire length of the intestines. It is, as represented, flat and jointed, the edges of the joints being somewhat waved. At the head—fig. A, 1—it becomes much tapered, but, downwards, increases in breadth, sometimes, to as much as half an inch or more, again tapering off towards the tail. In colour, it is a dirty white. Generally, one worm only exists in the bowels at a time, but sometimes there are more.

A



The symptoms caused by the different species of worms are in some respects similar; they are, more or less emaciation, although the appetite is good, unhealthy hue and pallor of the skin, furred tongue, and unpleasant breath, and frequent griping pains in the bowels, which are irregular, the chief characteristic of the evacuations being increased secretion of mucus, with perhaps an inclination to sliminess. Itching and picking of the nose in children is often set down as indicative of the presence of worms, but it is also a symptom of intestinal irritation from other causes; it cannot, therefore, be considered as conclusive. Indeed, it is a question, whether any symptom, except the appearance of worms in the evacuations, can be considered positive. The appetite is apt to be capricious, and there are symptoms of general digestive disorder. Some patients complain of feeling the movements, but except in the case of tape-worm, this is probably imaginary. Perhaps some of the most important effects produced by worms are those which result in irritation of the nervous system. Children more particularly exhibit them. They grate their teeth at night, talk in sleep, or wake up screaming; they are irritable and fretful. In other cases, various convulsive or spasmodic affections, such as St. Vitus' Dance, squinting, stammering, obstinate cough, and many others, have been distinctly traced to the presence of worms. The thread-worm, in addition to constitutional irritation, causes much inconvenience from the constant, and sometimes intolerable itching it gives rise to, about the fundament. The tape-worm seems to cause more uneasiness in the bowels than the other varieties, and its occurrence is certainly characterized by more emaciation and general debility.

The origin of worms in the intestinal canal is unexplained, although many causes which favour their occurrence are assigned. The water which is habitually drank, the diet, especially if it consists of a large proportion of vegetable aliment, &c., have been cited as causes, but perhaps no special origin can be proved, unless it be the deprivation of salt, which certainly has appeared, in the case of prisoners punished in this way in Holland, to favour the formation of worms. Debility, from whatever cause arising, is undoubtedly the condition which chiefly favours the generation of these parasites.*

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* Santonine, which has now been introduced into the British Pharmacopœia, is one of the most valuable additions to our list of remedies, inasmuch as it is an infallible remedy against those long round worms. The dose for an adult is five grains, either alone or with an equal quantity of sugar, or, still better, sugar of milk. The powder should be taken fasting, in a little milk, twice a day, till four or six powders are taken. A little castor oil both before and after the powders, which have no purgative action, will be found useful. For children two grains is a large enough dose. Some patients see things green while taking santonine, and the urine is coloured citron yellow. Both these effects speedily pass away, and need cause no alarm.

To get rid of worms, two sets of remedies —purgatives and tonics—are requisite; the first to clear away the offenders, the latter to correct the debility which usually favours their existence.

For the round worm, the best purgatives for children are calomel and scammony, or calomel and jalap, given at intervals of a few days, so as to purge briskly, the tonic—and some preparation of iron is generally the best —being given in the intervals. At the same time, the diet should be strengthening, well seasoned with salt, and ought to include a due proportion of fresh animal food. In the case of the thread-worms, the same general treatment is advantageous, but as they chiefly inhabit the lower bowels, their removal is much facilitated by the use of clysters, either of salt-water, or of some bitter infusion, or of turpentine; the latter being more applicable in the case of adults.

For the cure of tape-worm, many remedies, and especially turpentine, have been used, but, now they may safely be said to be reduced to two—the kousso and the fern, to the articles on which the reader is referred. —See also *Pomegranate*.

WORMWOOD.—This common plant, known by its many cut leaves, silky on the under sides, and by its strong odour, is not much used in medicine at the present time, although it is a good aromatic bitter and tonic. The tops should be collected early in August, and dried. Half an ounce may be infused in a pint of water, and of this a tea-cupful taken twice a day.

WOUNDS—are separations of the substance or tissues of the body, effected by violence. They may, as all are aware, be occasioned by a variety of causes; according to these causes, therefore, they are usually classified by surgeons into simple cuts, or "simple incised" wounds; into bruised and lacerated wounds; punctured wounds; poisoned, and gunshot wounds; the treatment of each variety being in some degree different, although there are certain general principles which must be observed in the management of all; these ought to be impressed upon the minds of those who may be called upon to direct the management of such accidents, and no kind of medical or surgical knowledge, perhaps, is likely prove more useful to unprofessional perso in out of the way places.

The first circumstance, generally, whi calls for attention as the consequence of wound, is the effusion of blood, but none the consequences, perhaps, exhibit great variation. Sometimes an extensive inju may be inflicted, even the arm torn off the shoulder, and yet the loss of blood l extremely small; on the other hand, puncture with a pen-knife, if it penetrat an artery, may be sufficient to place life the greatest immediate jeopardy; as a gen ral rule, probably, putting the opening large vessels out of the question, a great amount of blood is lost after simple cu than after any other description of woun When laceration, or bruising, takes plac there is usually, by stretching or otherwi of the coats of the arteries, a sufficie amount of mechanical impediment cause to modify greatly, if not wholly to preven any hemorrhage. As, under articles *Arte* and *Hemorrhage*, the various modes of arres ing the effusion of blood have been full entered into, it is unnecessary to reitera them here. When a wound is small, th best method of treatment is to tie it up once with a piece of linen rag; this is usuall sufficient at once to stop the bleeding, par ticularly if rest and position—see *Positio* —are attended to; the small quantity o blood which may exude, quickly dries upo the wound, and forms a sort of glue, whicl effectually excludes the air. As no bette dressing can be used, it may be left on till the cut is well; in some cases, before using the linen, it may be advisable to draw the edges, of even a small cut, together, by means of adhesive plaster or material of some kind.—See *Plaster*. Although linen is mentioned in the above directions, of course, should it not be at hand, soft calico may be used, or other soft material.

When a wound is extensive, and the bleeding profuse, it will not do to bind it up in this way, first, because it probably would not be sufficient to arrest the flow, and if it did so ultimately, it would retain a large amount of clotted blood, either in or about the wound, in such a way as to interfere with the healing process. In a large wound, therefore, it is necessary that the bleeding should be almost entirely arrested—see *Hemorrhage*—before it is dressed, that is, closed up, &c.

The first end in view when a wound is dressed, is to get as much of it as possible, to heal by the "first intention," or by "adhesive inflammation."—See *Adhesion*. That is, to get the several parts to adhere at once, without formation of matter, and thus with as little pain and trouble as may be. When the wound is a simple cut, such as that made by the surgeon's knife, this desirable termination may be expected, and often realised; even the extensive surfaces exposed in amputation of the thigh, will heal in this way, almost entirely; to attain the end, however, in many wounds, considerable care is requisite. In the first place, the wound must not be closed so soon, as that a clot of blood will form between the exposed surfaces; if it does, unless extremely thin, it will prevent union. In the second place, when the wound is closed, its surfaces must be placed in as accurate a position as possible, and must be thus held together till the process is complete. To effect and maintain this apposition or contact, various agencies are employed, and of these position is not the least important—see *Position*—that is, the placing of the parts so that the surfaces of the wound may, as far as possible, fall into contact, and that when other dressings are applied, there may be no dragging to get things to meet. Thus in a wound of the fore part of the neck, it is requisite to fasten the head so as to prevent its being thrown back.—See *Cut-throat.* At the same time, position must be regulated with a view to prevent hemorrhage. The wounded parts being properly placed, the next object is to draw the surfaces into as close apposition as possible; in some cases, this is sufficiently well done by means of strips of adhesive plaster—fig. A, 1—placed at such intervals as will permit discharge of matter, should any form. Frequently, however, from the nature, site, or extent of the wound, plaster is not sufficient to keep the edges together, or to counteract the natural resilient tendency of the skin to retract when severed. In such instances, stitches, or, as they are called by medical men, "sutures," are employed. These consist of a piece of sufficiently stout silk or linen thread* passed through the thickness of the true skin—fig. A, 2—at about the distance of a line from each of the severed edges. The thread is passed by means of a curved surgical needle—fig. B—and the two ends being tied as represented, bring the edges together, and retain them most effectually in contact; that is, provided the stitch is not made use of to drag parts into place; this it should never do. If there is a continued strain upon the sutures, not only do they cause much pain, but they quickly cause ulceration, which, by detaching, renders them perfectly useless. The surfaces of a wound having been brought into contact, a piece of thin linen soaked in water should be placed over it, and, if possible, a lightly applied bandage. This not only keeps the dressing in place, and assists to exclude air, but gives support, which is always serviceable, and often, in large wounds, absolutely necessary. The bandage may be kept wet with cold or tepid water, as most agreeable to the feelings of the patient. When a wound progresses well towards recovery, when there is no appearance of discharge, or so little, that it is neither inconvenient nor offensive, there should be no meddling; the less the processes of reparation are disturbed the better, and in some cases a week may be allowed to elapse before the dressings are disturbed; they may of course require it before, especially in warm weather.—See *Dressing.* It ought to be remembered, that in the treatment of all wounds, it is important to exclude the action of the air as far as possible, and it should be taken as an aphorism, that rest, simplicity, and cleanliness, are the great promoters of healing; the last are best attained by the use of water alone. No balsams, and such applications should be employed, and, except it be a little, perfectly sweet, fresh lard occasionally, ointment may be entirely dispensed with.

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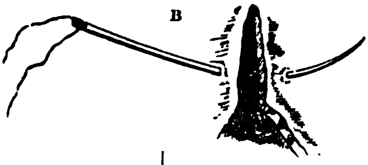
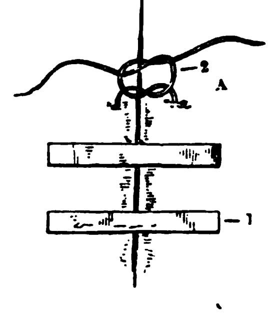
* Tape-worms are now well ascertained to be developed from what is called "measly pork," especially if it is eaten underdone. Dr Spencer Cobbold also, in his new and elaborate work upon Entozoa, makes the statement, that one form of tape-worm is developed from germs existing in the flesh of veal and beef, and that this form is perhaps even commoner than that owing its origin to diseased pork. The grand practical rule to be learned is, to eat no sort of meat which is imperfectly cooked.





The above observations have been directed specially to simple incised wounds; when laceration or contusion accompanies the injury, the principle must be to get the wound as much into the condition of a simple incision as possible. To do this, the wound having been thoroughly cleansed from dirt.

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* Fine silver or galvanized iron wire is now almost universally substituted for thread sutures, as it is well known that metallic substances give rise to much less inflammation, and do not retain impure matters in the wound.

grit, &c., by means of a soft sponge and water, and any foreign body which *can be easily reached*, removed, all parts not absolutely detached from the body are to be placed as nearly as possible in the natural position, stitches and plasters being used to retain them, and free exit left for the discharge of matter; over these there must be applied either poultice or water-dressing, and a bandage may be necessary or not, according to circumstances.

Lacerated and contused wounds are always followed by more or less inflammation, with discharge of matter, and frequently by mortification of some of the injured parts. Often in different portions of the same wound may be seen simple adhesion, suppuration, and mortification going on at the same time. In consequence of these changes, the dressings of lacerated wounds require frequent renewal, the greatest cleanliness being observed. In the course of a few days, after the infliction of the injury, if any parts are killed, or mortify, it is indicated by their assuming the characteristic appearance—see *Mortification*—the wound in such cases is to be managed—modified, of course, by circumstances—as directed in the above article. Such wounds, whether portions of the tissues have mortified or not, ultimately, if they do well, assume the characters of ulcers tending to heal, and require similar treatment.—See *Ulcer*. Punctured wounds are often more dangerous and troublesome to heal than their appearance would lead to be supposed. Their danger is, of course, commensurate with the importance of the parts wounded, on this account such cases should always be seen by a medical man. Generally, a simple poultice or water-dressing is the most appropriate application. Rest, too, should always be observed, and low diet, at least till proper advice has been procured. A wound from a barbed instrument, such as a fishing-hook, may be referred to the class of punctured wounds. The best mode of extraction is to cut off the dressing of the hook, if there be any, and to push entirely through by the shank. Gun-shot wounds partake more or less of the nature of lacerations and contusions. When small shots have entered beneath the skin, any that can be very easily detached may be, but it is well not to be too assiduous on this point. In such cases, perhaps the best thing that can be done, till a surgeon is procured, is to use means to check bleeding, to place the sufferer in as easy and advantageous position as possible, to apply poultice or water-dressing to the wound, and to counteract shock—see *Shock*—by the cautious administration of stimulants. Either in this case, or in that of any other wound, if there is much shock to the system, it must be counteracted, and, at the same time, if circulation in the wounded member is interfered with, means must be used to preserve sufficient natural heat, &c.

Poisoned wounds are wounds in which the division of the tissues, or even the abrasion of the outer skin is accompanied with the insertion of poison of some kind, whether that of a gnat or of a wasp, of a rabid dog or of a snake. The wound in itself is generally trifling, perhaps not more than a scratch, but its character depends upon the nature of the poison inserted; a slight momentary pain or itching may be the greatest inconvenience, or speedy death may follow, or the poison may take days or weeks to develop, as it does in inoculated small-pox or hydrophobia. When an individual suffers from a wound, known or believed to be poisonous, immediate steps should be taken, to prevent, if possible, the poison being absorbed into the system. The steps to be taken are sufficiently detailed in article "Hydrophobia," and the minor applications to the bites of gnats, &c., will be found under "Stings." The most serious poisoned wounds which can be suffered from are those of the serpent tribe, they are not only quickly followed by extreme cold swelling of the limb, but by great or fatal depression of the system generally. The latter consequence has been painfully illustrated in the recent instance of death in ninety minutes, of one of the keepers of the Zoological Gardens, from the bite of the *cobra de capello*, or poisonous hooded snake of India. In addition to the local treatment of the wound—see *Hydrophobia*—continued friction with some oily material appears to be most generally useful, whilst, at the same time, stimulants are freely given internally to counteract the depression. Of course, any stimulant first attainable should be used, but ammonia appears to be most highly recommended. In a communication in the *Lancet*, for October last, respecting the recent death from the cobra, by a gentleman at one time resident in India, it is stated, "So well aware are the native medical staff, and all intelligent natives, of the efficacy of ammonia in these bites, that they commence with it on the instant, not waiting for superior advice." A tea-spoonful of sal volatile may be given every five or ten minutes in a wine-glassful of water, till re-action is thoroughly established.*

Such cases as the above are not common in England; they sometimes, however, do occur in consequence of the bite of the adder or viper, the only speeies of posionous snake common to this country. The common "ringed-snake" is harmless, it nas a yellow spot on each side of the neck, whereas the adder is of a dirty yellow colour throughout, marked with black spots, and the belly black. Poisoned wounds, such as those sometimes received in dissection by medical men, or by cooks, and others who have to handle dead animal substances, are apt to give rise to symptoms resembling whitlow, and require similar treatment.—See *Whitlow.* They may, however, place life in much jeopardy by the constitutional affection they give rise to, and by causing the formation of abscesses in various parts of the body. Such, and indeed any severe, cases of poisoned wound ought to be put under medical care without delay.

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* POISONED WOUNDS.—In South America fresh lemon juice is carried in a phial to be applied to mosquito bites by means of a feather. It is said quickly to allay irritation.

Refer to—*Ammonia—Lock-jaw—Scalp, &c.*

YAWNING.—See *Gaping.*

YAWS.—A peculiar tropical disease, accompanied with a skin eruption. The advice given under "Tropical Diseases" applies also to this affection.

YEAST.—See *Fever—Poultice.**

YELLOW FEVER.—This epidemic disease, chiefly known as a visitant of the West Indies and of the shores of the North American continent, but which has also visited Southern Europe, is characterized by many of the general symptoms of fever; there is, it is said, however, peculiar headache from the commencement, situated behind the eyes. The irritability of the stomach is a peculiar feature in the course of the disease, and the vomited matter often assumes the appearance of black coffee grounds, known as the "black vomit." The occurrence of this, with suppression of urine, is considered unfavourable. The yellow colour of the skin is not invariable. The advice given under "Tropical Diseases" applies likewise to this. All that an unprofessional person could do in the absence of proper aid, would be to follow out the general principles laid down in article "Fever."

YEW-BERRIES.—The beautiful berries of the yew-tree occasionally tempt children to eat them, and the leaves have been given ignorantly as medicine. Both are extremely poisonous. A child has died within four hours after eating a quantity of the berries. The symptoms appear in some degree to resemble those of poisoning by belladonna, and treatment similar to that recommended in such cases should be adopted. It is thought that the poison resides chiefly in the seeds of the berry.

ZINC.—This, now well-known, metal yields some useful medicinal preparations. Of these the principal are the oxyde, the sulphate, and the chloride. The metal itself, which is of pale bluish colour, was some years ago introduced for various cooking purposes, and especially for dairy utensils, but seems to have been abandoned as unsuitable.—See *Cream.* The oxyde of zinc is a white, tasteless, rather light powder. It is used externally in the form of ointment in various skin-affections;† the proportion is one of zinc to six of lard or simple ointment. Internally, it is used principally in spasmodic diseases, such as epilepsy, and St. Vitus' Dance. In the latter disease, the author has used it successfully; the dose from two to six grains twice or three times daily in the form of pill.

The sulphate of zinc or "white vitriol" is a most useful preparation. It is sold in the form of small white crystals, somewhat resembling those of Epsom salts. It has a strong metallic, very unpleasant, styptic, taste. As an external astringent application it is used in solution, and forms one of the most serviceable collyria or eye-lotions, in the strength of from one to four grains to the ounce of distilled or rain-water. When used to ulcers, the strength may be increased to double. Its principal internal use is as an emetic, being admirably calculated, from the rapidity with which it causes vomiting, to empty the stomach in cases of poisoning, as by opium or other narcotic drugs. The dose, as an emetic, is from fifteen to twenty grains, in a wine-glassful of water. The salts of zinc are said to have themselves proved poisonous, but very rarely so; moreover, by the rapidity with which they cause vomiting, they must in great measure prove their own antidotes. In such cases, the treatment should be similar to that for poisoning by blue vitriol.—See *Copper.*

Chloride of zinc is chiefly used as an external caustic, and also as a disinfecting agent. It is said to enter into the composition of Sir W. Burnett's "Disinfecting Fluid."

ZYMOTIC—is a term recently introduced into medical science, and is probably familiar to most from its occurrence in the regularly published reports of the "Public Health." The term includes the various epidemic, endemic, and contagious diseases, such as fever, small-pox, &c., which originate, or are supposed to originate, from a morbid poison being introduced into, and gradually extending itself throughout the system. The process is likened to that of fermentation, and the term is derived from the Greek verb signifying to ferment.

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* See also Diabetes.

† The writer has found benzoate of zinc used as an ointment very superior to the oxide in skin affections.

CONCLUDING ADDRESS.

In bringing to a conclusion the "Dictionary of Domestic Medicine and Household Surgery," the author solicits the attention of his readers, to a few remarks on the objects, tendencies, and uses of the work.

The first desideratum in such a publication was, to supply at a price which might put it in the power of those of even very limited means, a work containing as large an amount of information as possible upon the proposed subjects, whilst, at the same time, the range of those subjects should be sufficiently extensive. It need scarcely be remarked, that for the attainment of these ends, it has been requisite, as far as could be done, to avoid repetition, and to make references supply the place of reiterated details. Even references, however, could not be fully given without the sacrifice of much valuable space; those, therefore, which are inserted, are not by any means set forth as complete, but rather as guides, to show how the reader may derive information by turning to various parts of the work. No other plan would have admitted of the necessary condensation. It certainly would be more convenient for reference, when any individual disease is treated of, if all *particulars* as to exact doses of medicine, &c., were entered into in each separate article, but to have repeated this, time after time, must have either greatly augmented the size of the volume, or greatly curtailed the space necessary for other subjects. Neither was it requisite so to do, for —and to this attention is specially directed—all necessary information ought to be easily found by reference, either to the articles on the medicines recommended, or to those suggested to the mind by the nature of the subject under investigation. The author would strongly advise the more inexperienced especially, never to give a medicine recommended under any article on a disease, without first turning to the article on the medicine, in order to be aware of any peculiarities in action, mode of administration, or otherwise. Moreover, it should be remembered, that the graduation of doses to different ages, is given under article "Medicines."

By some persons, a Dictionary of Medicine is looked upon as a work to which they ought to be able to run at any time, or in any emergency, and to find just what they want *in a moment*. This is a great mistake; in order that a work like a comprehensive dictionary should be found thoroughly useful, it must be read. No medical man, when he consults a volume of reference, expects to find what he wants in a moment; how much less likely, then, is an unprofessional person to do so. True, the effort has been made in the present work, to give the information as simply and clearly as possible, and, when there is no time for reading; the author trusts it has been done in such a manner, that a few minutes' glance over an article may afford much that is useful; but, it is repeated, the full benefit of such a work can only be attained by attentive perusal of the subjects, if possible, in connected series.

Throughout the Dictionary, the endeavour of the author has been to adhere closely to the doctrine of the first few lines of the Preface, "that the information given should be safely usable by those who are put in possession of it." In order to do this, he has striven to take the intelligence of the reader along with him; to give, in the first place, general views of the structure and functions of the living body, and of the sanitary relations, external and internal, on which the perfect working, the integrity, and health of these depend; to point out how disorder and disease is most likely to arise or to be originated, and by what rational means—the why and the wherefore—these are to be combated. This plan precluded almost entirely the giving of prescriptions, the recipes, one "good for" one thing, and another "good for" some other thing—of which people are so fond. It is the recipe system which has been the great stepping-stone for Quackery, and the monstrous evil and system of deception, is only to be got rid of by the diffusion of proper views of the true nature of rational medical treatment; views which make clear that this is not a mere system of drugging, but is founded upon a scientific enlightened consideration of the laws which govern, and of the requirements which are necessary for the due preservation of the various functions of the living body, in health, and not less so in disease. The author would add one more to his often repeated cautions to unprofessional persons, not to tamper with serious disease—would bid them remember, that many of the directions given in the present work are for use, only when no proper medical aid is at hand.

In conclusion, if success and wide circulation afford any criterion, the author has the gratifying assurance, that the "Dictionary of Domestic Medicine and Household Surgery," has supplied a want, and is likely to prove serviceable to the class of the community for which it was chiefly intended. Equally gratifying is the knowledge, that in the execution of a work on popular medicine, he has not forfeited the esteem and good will of his professional brethren, and that in addition to the favour of the general press, and to that of private professional testimony, some of the most influential medical journals in the kingdom have given their approval of his labours. He well knew that in undertaking a work of the kind he was doing what would at first subject him to criticism, if not to censure; that he was entering upon almost forbidden ground; on that ground he never would have entered, but for the consciousness that it might be trodden, not only without injury to the honour of his profession, but with benefit to those classes who most require enlightenment on the subjects treated of, and that in adding his efforts for that enlightenment, he was giving real, earnest assistance towards hastening the downfall of quackery in whatever guise it may show itself.

S. T.

November, 1852

APPENDIX.

ABSINTHE or **ABSINTHIUM**,—wormood—has long been used as a bitter tonic d as a worm remedy, both in this country d on the continent. It is omitted from e British Pharmacopœia, and its place is ry properly taken by the active principle lled santonine, which is one of the most luable additions to our stock of mediies, and to the article upon which, the Appendix, the reader is referred. ere are various species of artemisia sinthium, the unexpanded flower heads which constitute santonica, from which ntonine is prepared. Absinthe is also s name given to an intoxicating drink, ich used in France, Algiers, &c.; its ects are thus described:—

Absinthism. According to Dr Emile caisne, the consumption of absinth has late years increased to an enormous exnt in France. It is made by infusing in cohol ends of wormwood, both major and nor (*sommités d'absinthe* from which the uor takes its name). angelica root, *calas aromaticus*, aniseed, dittany seeds, and mmon marjoram. Some distillers, hower, vary the recipe, and use fennel, mint, d balm. The concentration of the dese of the alcohol is generally very high. digo, tincture of turmeric, juice of hyssop, d nettles, are called to aid to improve the lour and appearance of the pernicious ught. The effect of absinth is to proce a superabundant activity of the brain, cerebral excitement which at first is eeable. The intoxication "comes on pidly; the head swims; and the effect oduced is nearly the same as that of isoning by a narcotic, which certainly es not occur with an equal dose of brandy. ith the absinth-drinker, as with the andy-drinker, the excitement the liquor oduces diminishes daily in intensity. ch day he is obliged to augment the se, in order to screw himself up to the ght pitch." The diseases brought on by nking brandy are produced much more pidly by the use of absinth. One of the eatest dangers of absinth, says Dr Deisne, consists in its adulteration. Dr Decaisne has observed more than 150 cases of chronic absinthism, and concludes that absinth ought to be prohibited. He has convinced himself that absinth, even of good quality and in moderate doses, sooner or later invariably produces disorders in the human economy. He considers that the extent to which it is now consumed in France demands the intervention of Government. He declares that the pale green demon has invaded all classes of society, the idler and the workman, the soldier and his officer; all professions, those who work with the brain, and those who work with the hand, swallow it with frenzied eagerness.

ACID, Phosphoric Dilute, has been used with good effect to assuage the thirst accompanying diabetes, to check the distressing night sweats so common in pulmonary consumption, and as a good tonic generally. It is valuable also in certain morbid conditions of the urine, but in such should only be prescribed by a medical man. The dose is from 5 to 30 minims, given in a wine glassful or tumblerful of water. A very harmless and refreshing drink, where there is much feverish thirst, may be made by adding a drachm of dilute phosphoric acid to a quart of water, or barley water, if preferred. This has been found effectual in assuaging the excessive thirst of patients afflicted with chronic disease of many kinds, as well as in cases of fever, where it is an invaluable "fever drink." See *Fever*.

ACUPRESSURE—(*Acus*, a needle)—is the name given by Dr Simpson, of Edinburgh, to a method originated and proposed by him for the suppression of bleeding from arteries which have been cut. Instead of tying the mouths of the bleeding vessels with threads or ligatures, which is the usual custom, the Professor asserts that it is much better and much less likely to cause suppuration, to pass a needle through the texture and fasten the vessel, just as a gentleman passes a pin through the lappel of his coat to fasten a flower. There can be no doubt that wounds so treated are much more likely to heal by what surgeons call the first intention,* but the method, being attended with many practical disadvantages, has not yet, at all events, met with that trial at the hands of surgeons to which its merits undoubtedly entitle it. See *Artery*, *Hemorrhage*, *&c.*

ACNE.—This is a disease of the skin of which there are several varieties. It is most common on the face and between the shoulders, occurring most frequently above the age of puberty. The "grog blossoms" of drinkers of ardent spirits are called, in medical parlance, acne rosacea. The treatment of ordinary acne consists of attention to the general health, and the frequent washing of the face with yellow soap and tepid water. The face should be first dipped in water, then covered with a lather of soap, then dipped in the water again, and finally washed till free from the soap. When the pimples are inflamed and irritable, a soft towel should be used and all rubbing avoided. Iodide of sulphur ointment is a good outward application.

Refer to article—*Sebaceous*.

ACNE ROSACEA, or that form of the disease most frequently met with in those who have indulged too freely in the pleasures of the table, is said to be quickly cured by the following draught taken night and morning:—Compound infusion of horse-radish, two ounces; compound spirit of ammonia, ten minims; syrup of ginger, one drachm. A milky infusion of the fresh root to be used frequently to the parts affected. The use of vinegar by some individuals is invariably followed by an accession or increase of the eruption.

ACONITE.—Whether we consider the importance of this plant, in a medicinal point of view, or reflect upon the dreadful cases of poisoning which have recently occurred from it, it is impossible to attach too much importance to as full a knowledge as possible of its properties being attained by every one likely to come in contact with it. Its height is about five feet; the leaves are much divided or cleft, and the flowers, which form a close spike, are deep blue and helmet-shaped. All parts of the plant are acrid and poisonous. The root has been, and may again be, mistaken for horse-radish root; but the aconite root, when well formed, is shaped like a French turnip, is nearly black externally, but white internally. As aconite grows in almost every garden or shrubbery, it is advisable not to use any root *about which there is any doubt*, and so avoid a repetition of those tragedies which have been too frequent of late. Aconite is used medicinally in the treatment of rheumatism and rheumatic gout, and as a sedative of the heart's action, in inflammatory diseases, fever, &c. *It is never to be prescribed but by a medical man.* Aconitia, the active principle, is far too strong a remedy for internal use, but it may be applied in the form of ointment to the surface of the body in situations affected with neuralgia. Tincture of aconite, either pure, or mixed with twice its bulk of opium liniment, has been found very efficacious in allaying pain in cases of neuralgia and chronic rheumatism. Although very unsafe as an internal medicine, the tincture of aconite is perhaps the most powerful medicinal agent one possesses for immediately allaying neuralgic pain. One drachm of tincture of aconite, and one drachm of chloroform, and ten drachms of soap and opium liniment—now "Linimentum opii" of British Pharmacopœia—form an effectual but safe liniment in severe pain, care being taken that it is not applied where there is broken skin.

A case of poisoning by aconite ought to be treated by placing the patient at once in the recumbent posture, applying friction over the heart and chafing the limbs. If the patient can swallow, stimulants should be given. Of course, if the case be discovered early enough, an emetic should first of all be administered lest any part of the poison should be still retained on the stomach.

See also article—*Aconite*.

ACTÆA RACEMOSA.—The tincture of the actæa racemosa has been much recommended in the treatment of diseases connected with the rheumatic constitution in all their forms and complications, of St. Vitus' dance, lumbago, &c., but although it has met with favour from some, many, after having given it a fair trial, are still quite unable to accord it a recognised place as a remedy for rheumatism. The dose of the tincture is one drachm in water, either alone or in combination with other remedies. It has been much more generally used in America than in this country, and has not received a place in the British Pharmacopœia. The popular name for it is black snake root. The scientific name is Cimcifuga racemosa; natural order, ranunculaceae. It is a native of North America, where it was introduced by Dr Garden as a remedy for consumption, in 1823.

ADDISON'S DISEASE, BRONZED SKIN, OR DISEASE OF THE SUPRARENAL CAPSULES, with bronzing of the skin and anæmia, form the subject of a treatise written by Dr Thomas Addison of London, ten years ago. At the outset, the patient complains of the symptoms characterizing great general debility and anæmia; the white of the eyes have a peculiar pearly appearance: and there appears, sooner or later, a peculiar dusky bronzing of the skin which is most marked about the face and neck, the arm-pits, about the genital organs, and around the navel. The discoloration presents itself in all degrees, from the slightest darkening of the skin to the swarthy hue of the mulatto.

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* See *Wound*.

The cases of this disease have generally been found to terminate fatally, and there was often discovered after death, by Dr Addison, disease of the little glands lying immediately above the kidneys, and called the suprarenal capsules. On the other hand, a large number of cases have been found where there was disease of the glands and no bronzing, so that the medical profession are still divided as to what amount of importance ought to be attached to Dr Addison's discovery. Nothing can be done in the way of treatment, except to improve the general health, and employ the remedies for debility and anæmia. It may be well to note that a parasitic skin disease, wholly different from the above, and capable of cure, may be mistaken for it; hence, such cases should, on their first manifestation, be submitted to a medical man.

ADULTERATION OF FOOD.—A Committee of the House of Commons upon this subject has given authoritative expression to the opinion that adulteration of food widely prevails, by which not only is "the public health exposed to danger, and pecuniary fraud committed upon the whole community, but the public morality is tainted, and the high commercial character of the country seriously lowered, both at home and in the eyes of foreign nations."

In spite of this, however, legislation is singularly tardy and inefficacious on the matter, and it is certain that although great improvements have been made, our laws are still a great deal too lax upon this subject, for it is surely a monstrous anomaly in our code of laws that some comparatively trivial offences are at once detected and punished, while the basest attempts to defraud, and at the same time to injure life and health, too frequently remain undiscovered and unpunished. "They manage these things differently in France," where, if a baker presumes to adulterate his bread he is fined, and if he repeats the offence, he is prevented from following his trade as a master baker again, and he is advertised all over the town as a dishonest tradesman.

Some adulterations are positively dangerous and poisonous, as, for instance, the colouring of sweetmeats with arsenic or lead; others are merely and simply fraudulent, as the adulteration of flour with potato starch, of butter with salt and water, &c.; but we do not stop here, for even the articles used to adulterate are themselves in their turn adulterated, so that, when the knave, who has lent himself to the dishonest custom, trusts to escape detection by using a substance which is, at all events, *as he supposes*, harmless, he finds to his surprise that he again has been duped, and that, perhaps, a poisonous substance has been used to drug the very article he had used as counterfeit. In this way chicory, which was itself so much used as an adulteration of coffee, is adulterated with carrots, red earth and molasses; and anatto, used to dye cheese of a rich colour, has been adulterated with red lead, so as to cause fatal poisoning.

It cannot be too strongly impressed upon the public mind that to adulterate at all is in every way wrong, and that, willingly and knowingly, to add substances of a poisonous or deleterious nature for the sake of gain, is a crime of the deepest dye, for which all those guilty of it will have one day to answer!

It is manifestly of the greatest importance that the public should know and guard against adulterations of all kinds which are to be met with in the articles of our daily consumption, and that they should, to some extent, at all events, be acquainted with the nature of the substance used, whether it is injurious or not to life and health. Even our bread, "the staff of life," is adulterated to an enormous extent, sometimes with alum and carbonate of magnesia, which are added to improve its appearance when made from coarse or inferior flour, and sometimes with the meals or flours of other grains or vegetables, such as oats, barley, Indian corn, potatoes, beans, peas, rice, &c., &c., so that our Laureate has taken no undue poetical licence when he says that—

> "Chalk, and alum, and plaster, are sold to the poor for bread."

It is sad to think that the poor man, who buys his loaf of bread with the wages of a hard day's toil, is not only unable to get the worth of his money in the shape of pure, wholesome, nourishing food, but that he actually is forced, through these abominable "tricks of trade," to eat a substance containing deleterious or poisonous ingredients, such as by daily enfeebling his health, positively unfits him for the proper discharge of his daily duties.

There is little doubt that the bakers themselves are mainly to blame for the excessive adulteration of bread, flour being tampered with by the flour merchants only to the extent of mixing it with flours of inferior quality, or those which, having been exposed to damp, &c., are in a state of decomposition. Potato starch, alum, bone dust, and an Egyptain grain called Dari, have all been used as adulterations, and several kinds of alkalies have been found in flours, added no doubt to overcome the tendency to grow acid existing in flour which has been exposed to damp and moisture.

It is highly necessary that a system of

supervision should be instituted at our principal ports, with power to confiscate and destroy flours which are damp and decomposing. Instances have been known where such flours were redolent with the smell of decaying animal as well as vegetable life, owing to the thousands of insects which had become developed in the putrid mass, enough to breed a pestilence; and yet even such flours, or portions of them, after having been mixed, have been sold, and have caused symptoms of fatal poisoning to those who have partaken of the bread made from them.

A great deal has been said about the adulteration of milk in large towns, and the pale sky-blue mixture sold in London has been said to consist of chalk and water, sheep's brains, and various other disgusting compounds. It may be said, for the comfort of those who are ever ready to believe in anything marvellous, that it is not the practice anywhere to put the brains of any animal whatever into milk, and that after all, almost the only adulteration we have to fear is plain water, which, unfortunately, can be added in large quantity without much marring its appearance.

This is without doubt the only serious adulteration, and a very serious one it is, because the importance of good milk as an article of diet for all, and specially for certain cases of disease, can scarcely be exaggerated, and even now medical men are becoming every day more alive to the advantages of a substance which, being of easy digestion, can so readily take the place both of animal and vegetable food, and has in itself, unlike any other substance whatever, all the elements requisite for the support of life. Our national scourges of scrofula and consumption, as well as all other debilitating diseases, would not be so common if we could obtain for the young children of the poor in our large towns an adequate supply of good and pure milk. It is to be hoped, now that inquiries are being made, in consequence of the outbreak of disease among cattle, into the state of our great London dairies, we shall have the much required reform in their sanitary arrangements, that licences will be withheld from those who have been guilty of cruelty to the animals pining under their care, never seeing the light, breathing fresh air, or tasting natural food, and giving, so to speak, their very life-blood to form the nourishment, bad as it is, which they yield. We can scarcely wonder that disease should break out and flourish under such a system as prevails in some of our dairies, and can hardly hope to escape the punishment that a much diminished supply of milk will entail upon us.

Of course, chalk is never used to adulterate milk or cream, because it would fall at once to the bottom of the vessel and be detected. Next to water, perhaps the most important adulteration is arrowroot, which is often mixed with milk or cream, to give it a thick or rich appearance. It is surprising what a small quanity of arrowroot will produce the effect if skilfully mixed with it.

The adulteration of sugar may be disposed of in one word. The fact is that, as stated in the *Lancet* by Dr Hassall, *all brown sugars are, as a rule, unfit for human consumption*, and contain all manner of animal and vegetable impurities in greater or less quantity. The grand and simple test for sugar, then, is its colour and appearance; and the only fraud practised by the venders of it is to mix up inferior with the better qualities. Lump sugar is the best and cheapest; and a good sugar must be of bright colour, crystalline, and *dry*. The inferior brown sugars are mixed up to a great extent with water, mould, insects of several kinds, and dirt.

A very objectionable adulteration or fraud, inasmuch as it is practised upon an article often specially ordered for sick people or young children, consists in the substitution of potato starch for arrowroot. The former costs 4d to 6d per lb., while the latter varies in price from 3s 6d to 1s per lb. Dr Hassall found twenty-two out of fifty samples of arrowroot to be adulterated; and ten of the twenty-two had scarcely a trace of genuine arrowroot in their composition. The prevailing, and almost the only adulteration, was potato starch.

One scarcely knows how to approach the subject of the adulteration of meat. We have heard with horror, in childhood days, of cats, kittens, and even articles still more objectionable, which have found their way, by some means or other, into the so-called mutton and beaf-steak pie. A humorous writer, lately describing his experiences of the latter compound on a given occasion, says:—"Mean and degraded indeed must have been the spirit of the bullock that would confess to any share in such a production; in fact, I am convinced that the bovine element entered no more into its composition at all than the flesh of the unicorn into pease porridge." It was stated by Mr Richardson, Officer of the Local Board of Health of Newton Heath, near Manchester, that there were in the town numerous knackers' yards, where the best portions, such as the tongues, the hind-quarters, &c., of the slaughtered horses, were disposed of to those who deal largely in pies, potted meats, sausages, brawn, &c. The buyers and consumers of such articles must only hope that there is nothing worse added than the above. A most pernicious custom exists of colouring potted meats with red earths — with one, in particular, called "bole Armenian;" so that it may be laid down as a general rule that potted meats, other than ham and tongue, having a red colour, cannot be good. This bole Armenian is also largely used in the preparation or manufacture of counterfeit Anchovies (for real Anchovies are now almost unknown), and, like chicory, though itself an adulteration, does not escape being tampered with in its turn, and is often mixed with red lead, an active and fatal poison.

Good, fresh, or sweet butter, is certainly one of the most important nutrient articles of diet we possess, and it is matter of regret that so much pains should be taken, to spoil and adulterate it by adding water and salt, to increase the weight. The butter is half melted, and then the salt and water are stirred up with it to about one-fifth of the whole weight. The most inferior qualities of butter, that are good for nothing else, are mixed up in this way, and are sold to the poor at a comparatively low price; but it may safely be said that it is the reverse of economy to purchase what is called salt butter, seeing that it is always inferior to fresh, and, in the worst cases at all events, it is simply a rancid butter, with perhaps 50 per cent. of salt and water.

Coffee, as is well known, is still, and was to an enormous extent adulterated with chicory, which is a much cheaper substance than the cheapest coffee. Other adulterations are unimportant, and are not often met with, though Dr Hassall mentions roasted grains of all kinds—peas, beans, roasted carrots, and acorns, and even *mahogany sawdust*. It must be said that government has acted very unadvisedly in permitting coffee and chicory to be sold together, because they can be equally well mixed at home if desired, and ought to be sold separately. Still more absurd was it to grant a patent for actually making counterfeit coffee beans or berries from chicory. The difference between coffee and chicory is very marked. A little of the former when put into a cup of water floats on the top, and imparts no colour to the water, while the latter sinks to the bottom, and gives a deep red tint to the water. This is a very ready and convenient test which may be tried by any one at home.

Tea is most extensively adulterated, both in this country and in China, where they give it the appropriate name of "lie tea." Both black and green tea are liable to be tampered with; and an infinite number of substances are used as counterfeits, and also to give colour and increased weight. Again, powders are made up and advertised (such as "The Chinese botanical powder," and "Veno bono" "possessing four times the strength of the best tea,") which are utterly worthless, and consist for the most part of wheat flour mixed up with catechu or with some earthy or colouring matter. The absurdity of colouring teas for the market is very great, and is only kept up by the ill-informed on such subjects giving a preference to teas that have a fine bloom. *The Chinese do not themselves drink* coloured teas. The principal matters used for "facing" the teas, as it is termed, are Prussian blue, graphite or black lead, gypsum, and turmeric. Various leaves are used to counterfeit the genuine tea, amongst which may be mentioned those of the sloe, the hawthorn, the beech, the plane, the horse-chesnut, the willow, and the elm. Sloe leaves are used whole, but the others are for the most part broken up and mixed with gum and some substance such as catechu, and rolled up into small masses. Colouring matters are added in the most reckless way, and a black or green tea readily produced at will. Some of these colouring matters are of a poisonous nature, but, for the most part, they are either innocent, or of such powerful colouring property that only a very small quantity requires to be added. It is lamentable to think that there should be, as there is in this country, a distinct and separate trade in selling articles solely for the adulteration of tea, and there can be little room for doubt that until government can be induced to take measures to confiscate and destroy adulterated or "lie tea," the practice, which is a very lucrative one, will increase, till it is impossible to obtain a pure tea at a reasonable price from the retail dealers. The *Lancet* commissioners, on an inquiry into this subject more than twenty years ago, received a very remarkable statement from a Mr Phillip, an inland revenue officer. He stated that large numbers of persons were employed to collect the used-up tea leaves from hotels and taverns throughout the country, and that these were redried, mixed with a little gum, recurled, recoloured and sold as green or as black tea. It is monstrous that no less than ten or a dozen manufactories should be allowed to exist in London for this fraud, and surely it is by such doings as these being winked at that the public morality is tainted, and the commercial character of the country deteriorated both at home and abroad.

The practical lesson to be derived from all this is to deal only with respectable tradespeople, and to make such inquiries as are possible into the purity of all articles which are to be consumed in the household. Also, to beware especially of articles which are sold by second-rate tradesmen, at a cheaper rate than they can be bought pure in the market.

It would be a direct benefit to society if any person having an article sold to him which he suspects is adulterated, would have it analysed by a respectable chemist, and communicate the result to the Board of Excise, who will cause an investigation to be made into the matter, and, if necessary, fine the shopkeeper according to the nature of the offence. And it would be still better if, in addition to the fine, the Board were empowered to advertise the defaulter as a vendor of adulterated goods.

ÆTHER CHLORIC is now called in the British Pharmacopœia, spirit of chloroform. There are few remedies more generally used in all spasmodic affections, such as asthma, coughs, &c. It is also of great value as a sedative in painful affections, especially in combination with opium and other remedies. Owing to its intensely sweet taste, it is much used to make certain mixtures more palatable. It is invaluable as a diffusible stimulant in cases of great debility, and of obstruction to the respiration occurring in the course of heart, or pulmonary disease, or both. The following prescription, which will be found as palatable as most liqueurs, may be taken in cases of difficulty of breathing, faintness, &c.:—Take of spirit of chloroform, three drachms; compound tincture of cardamoms, five drachms—mix. A teaspoonful to be taken in a wine-glassful of water when required. Or, spirit of chloroform, two drachms; tincture of ginger, six drachms; a teaspoonful in a wine-glassful of water.

AIR.—It has become a question of the greatest moment to determine the quantity of air that is necessary to be supplied to human beings to maintain them in a state of health under varying circumstances, to determine whether the air they breathe, though sufficient in quantity, may not be altogether hurtful on account of certain impurities, to determine what these impurities are, and how to destroy them, or render them innocuous, and how, by the help of apparatus or otherwise, a sufficient quantity of air may be admitted to, and circulated through buildings in which large numbers of people are congregated. It is also one of the most interesting inquiries of modern times to ascertain what and how many diseases may be due to deficient quantity of air for respiration, or, on the other hand, to the presence of impurities in the air that is breathed. It is almost needless to say that these are points upon which medical science is throwing more and more light every day; and it will be the object of this article to give a mere sketch of what is being done to advance our knowledge of the subject, in the hope that all may lend a helping hand to put an end to the prejudice and ignorance which still exists on these vital points, but which, nevertheless, are points concerning the every-day life and health, not only of ourselves, but of generations yet to come.

As to the requisite quantity of air, it may be well to say, once for all, that although it is desirable to know the least quantity that is compatible with health, still, wherever practicable, the quantity should not be restricted to anything like this amount, but a full and large supply should be ungrudgingly given, with the assurance that benefit will accrue.

In all calculations as to the proper amount of air to be supplied to buildings, an ample allowance must be made for the consumption of air by artificial lights. In his excellent work upon Practical Hygiene, Dr Parkes says:—"A common gas burner will burn nearly 3 feet per hour, and will consume 10, or probably 12 cubic feet in an evening (4 hours), and therefore, from 18,000 to 21,600 cubic feet of air must be introduced in the 4 hours, in order properly to dilute the products of combustion, unless they are removed by a special channel." It consists with the experience of medical men that in cases of typhus, cholera, small-pox, and, perhaps, more particularly of hospital sore, gangrene and erysipelas, nothing is so effectual as an unlimited supply of air, and that if they must name a figure which will satisfy them, their demand should be for not less than 5 or 6 thousand cubic feet per head per hour, in order properly to dilute and remove the poisons with which the air is loaded.

Those who have charge of the ventilation either of public buildings or private houses should not forget that they cannot at all trust to their own senses to inform them as to the purity or impurity of the air, for after a time the nerves of smell and taste lose their delicacy of perception; and it is familiar to every one that a person may be in a very close room, and be quite unconscious of the fact, although a stranger coming in from the fresh air at once perceives the disagreeable odour. Again, people living near certain manufactories which emit odours very prejudicial to health, become so accustomed to them after a time, that they fail to notice them, and are often lulled into a dangerous tranquillity on the subject, ascribing the effects of these effluvia entirely to other causes; and it must never be forgotten that although the natural means for the removal of noxious vapours are very wonderful and very effectual, such as the diffusion of gases, their dispersion by winds, their decomposition into innocuous compounds, &c., still, there are in existence in this country many neighbourhoods where the atmosphere is polluted to a degree quite incompatible with the life or health either of animals or vegetables. In considering this subject, every one would do well to reflect that the atmosphere comes into direct contact with the surface of the air cells of our lungs, which, if spread out, would cover an area of from 10 to 20 square feet. Over this surface our blood is circulating with immense rapidity, ready at once to absorb all the contents which the air, pure or impure, may offer to it, and in addition to this, the impurities contained in atmospheric air are swallowed directly as well as respired, and are absorbed by the digestive system also. It is even now matter of interesting enquiry how much the evil effects of poisonous emanations in the atmosphere are to be ascribed to their being swallowed or respired. In the disease familiarly known to medical men as "Miner's lung," the atmospheric impurities to which the miners are exposed, are found after death in their lungs, in the shape of pieces of carbon or charcoal, which have become covered by part of the investing structure of the lung, which has so to speak grown over them, and it may be fancied what an amount of irritation the presence of such substances will give rise to in so delicate an organ as the human lung.

By the aid of the microscope we are enabled to demonstrate the presence of numerous substances in the air which we breathe, and especially in the atmosphere where certain trades and industries are carried on. It would be quite impossible, in an article like this, to attempt to give an account, or even an enumeration of the investigations on this subject. Let it suffice to mention a few of those trades which are most detrimental to health in this way; and it is a melancholy instance of the perversity of human nature, that some of the most ordinary precautions, against the injurious effects of certain trades, afforded by liberal employers, have met with such a cool reception from the men, and, in not a few instances, have been deliberately refused, although the reduction of mortality from their use has been proved over and over again. Employers, on the other hand, must take care that the means they offer are good and sensible, and must not, for instance, expect their "hands," perhaps already enfeebled in health from long hours and bad air, to adopt all at once a faulty system of ventilation, the only effect of which is to add to their sufferings, by causing them to take cold, or by making them the prey of some inflammatory disease to which they are predisposed, owing to the circumstances above named.

Amongst the trades and occupations which are most injurious, on account of the impurities in the air which those employed are forced to breathe, we might mention mining, grinding (wet and dry), button-making, brassfounding, glass-making, water-gilding, electro-plating, painting, and many others; besides all those trades which, though perhaps not positively injurious in themselves, are made so on account of the way in which they are carried on, by bad management, bad ventilation, &c. It has been proved that the colliers of Durham, where the mines are well ventilated, do not suffer from diseases of the lungs to anything like the same extent as those working in mines where the ventilation is deficient. "Potter's asthma" is the popular name for disease of the lungs induced in that class of workmen by the irritating dust to which they are exposed, especially those called "flat pressers." Brassfounders are very subject to bronchitis, owing to irritation caused by the fumes of oxide of zinc which escape in the process known as brass-mixing. Makers of pearl buttons, especially those who *grind* the material, are liable to consumption, owing to the minute particles which are inhaled. Many other instances might be noted; but the above are probably sufficient. It is indeed a dreadful thing to think that many of our trades and industries are the direct means of destroying the flower of our population, and that this is owing generally to two causes—to the trade being in itself unhealthy, and to its being carried on in such a way as to make the preservation of health, under the circumstances, almost an impossibility. It is well known that, during the last ten or twenty years, many cases of poisoning by arsenic occurred, owing to the inhalation of the dust of rooms papered with green paper into the composition of the green colouring matter of which arsenic largely enters.

If any further proof were wanted to establish how, in certain circumstances, it may be truly said that—

> "The all-surrounding heaven, the vital air,
> Is big with death,"

we may mention that, by the aid of the microscope, suspended matters have been discovered in the air of hospitals, barracks, and other public places, of such a nature that even the most ignorant may conceive how the poisons of various diseases may be transmitted through the air. Not only are the products and parts of the structure of our own bodies so discovered, but also the lower forms of animal and vegetable life. It should be remembered that, in the air of sick-rooms and such situations, these accumulations are much more liable to occur than in places not subject to emanations from the body or from its excretions, sores, or wounds; and hence a more effectual system of ventilation ought to be maintained.

In manufacturing towns people should take care before fixing on a residence that it is not too near any of those well-known "works," which so pollute the air as to render it unhealthy, and unfit for respiration. Such are the various glue and bone works, as well as knackeries and slaughter-houses, which emit peculiar animal or organic odours of the most abominable kind; alkali works, which give off hydrochloric acid gas; chemical, bleaching, India rubber works, &c., &c.

In order to ascertain how foul air may be deprived of its impurities, the reader is referred to article *Disinfectants* in the Appendix.

In conclusion, one word of warning to those who work in, and spend the greater part of their time in bad foul air, such as tailors, dressmakers, printers, &c. A large series of the most extended observations, published in the last report of the medical officer of the Privy Council on Public Health, prove incontestably the sad state of those who work in many large establishments of the above kind. The writer has been induced recently, from a perusal of the above report, to visit personally several of the leading houses both in London and in the large manufacturing towns of England, and is constrained to say, that while there are some honourable exceptions, and indeed one or two where everything that money, science, and experience can suggest is willingly done to promote the health of the employed, yet, in the vast majority, the state of matters is positively shocking. Irregular work, long hours, insufficient time for meals, but, above all, deficient ventilation, are too often found combining to sap the foundations of constitutions once healthy, and to lay the seeds of irreparable disease, which sooner or later (generally wofully soon) brings the victim to a premature grave. It is quite true that, occasionally, instances of this find their way into the public prints, and excite momentary surprise and indignation; but "to mend the world's a vast design," and years roll on without any radical cure being applied to a system which threatens greatly to weaken the physique of the country at large. It will scarcely be believed that there are to be found numerous tailors' workshops in the country where the men are huddled together in dens, the atmosphere of which is rendered intolerable by the gas,[*] the stoves, and their accumulated breaths and emanations, and where the amount of air supplied *is not one-tenth part of what we are deliberately told is necessary for health.* The same state of matters obtains as to dressmakers and printers, and many heart-rending instance might be given of blasted health and hopes but while dealing with a subject of suc grave importance, it is better to avoid an attempt at dramatic effect, and rath .r trus that the bare statement of general trut may induce all who have any influence i such matters to aid in remedying what i well known to be such a crying evil.

ALCOHOL. — Methylated alcohol, o methylated spirit, is alcohol rendered impure by the addition of a certain proportio of shell lac. It is thus rendered unfit fo internal use, on account of its unpleasan taste and odour, while at the same time i is sold free of duty to those who requir the use of spirit for manufacturing or fo scientific purposes, such as the preservatio of pathological specimens in our museums &c. It is also used, fraudulently, by som chemists, in the preparation of certain drug for which a large quantity of spirit is required. Instances have occurred in th writer's experience, where the craving fo alcoholic stimulants has existed to such degree, that intoxication has been produce by the use of methylated spirit, the objection to the nauseous taste and odour having been apparently overcome. This fac should be kept in mind, seeing that servants and porters are often entrusted wit large quantities of this spirit, which is use for so many purposes in the arts and manufactures. &c.

ALGERIA.—There are few places on th face of the earth that present more attractions to the invalid, especially if he exhibi a consumptive tendency, than Algeria. I can ·be reached in a couple of days b steamer from Marseilles. Any one who ha observed the grotesque costumes and th altogether remarkable appearance presente by the Algerian troops maintained by th Emperor in Paris, and who is told that thi is only one of the novel figures that will greet his eye, representing at least half dozen different races, in the city of Algiers, will believe that there is much to interest and amuse, in studying the manners and customs of the natives. The scenery is magnificent, and the climate perhaps superior to any other point on the Mediterranean. It probably holds an intermediate place between tonic and sedative climates, in some respects approximating to Upper Egypt, or to Malaga. It should not be visited by the consumptive patient without medical advice, as it has proved too relaxing for some cases.

ANÆSTHETICS — are agents which produce insensibility to pain, and it is but natural to suppose that since the introduction of ether, and subsequently of chloroform, no subject has attracted more attention from medical men. It is now generally accepted that chloroform is at once the safest and best of anæsthetics, and it is well to know the best means of applying it, as well as the remedies to be employed in case of accident from its too free application.

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[*] In a recent number of the *Lancet*, attention is directed to the fact that the air and water of our large towns are contaminated to a certain extent—no one knows how prejudicially—by the leakage of gas, which is said to be so considerable that a general overhauling of our gas pipes is recommended.

Chloroform should never be given but by a duly qualified person, and *certainly should never be administered by any one to himself.* It may now be said that deaths from the administration of chloroform, are very unusual, and we hope that they will become, in time, almost unknown, especially since medical men are much more cautious in having chloroform given only by those who are experienced in its use, in which case it must happen very rarely indeed that there is any cause for alarm.

There are a great number of chloroform "inhalers" used at present, but the fact is that none of them are to be recommended, and that the simplest method is the best. The patient ought to lie down, to keep his eyes shut, and breathe freely; any tight article of dress around the throat or chest should be loosened; about two drachms of chloroform should be sprinkled over a folded towel, which is to be lightly applied over the patient's face, and afterwards, when this is partially evaporated, one drachm should be added from time to time, till insensibility is produced. How much chloroform should be given can only be determined by an experienced person, who tests the sensibility of his patient by opening the eye and touching it, by raising the arms and letting them fall again; thus judging if the muscles are relaxed; or by otherwise testing his patient's power. Many patients, before getting quite under the influence of chloroform struggle violently, and require to be restrained by one or two assistants, but the administration should be continued till this is overcome, which it speedily will be, the patient then generally passing into complete insensibility. The uninitiated ought to know that patients often shout, and even appear to suffer great pain, when they are quite unconscious, and that there are great differences exhibited by different people in the way in which they are affected by the drug. When it is desired to relax the muscles, entirely, as, for instance, to allow of the reduction of a dislocation, it will be necessary to produce even a more decided effect than is required for a painful operation, as the amputation of a limb, the removal of a tumour, &c. On such occasions, the administrator of the chloroform most attentively and momentarily watches the condition of his patient. It cannot be too emphatically repeated that care and experience are the two great requisites in the giving of chloroform. Another mode, which deserves notice on account of its simplicity, and which is in great favour, though, in the writer's opinion, inferior to the above-mentioned method, is to protect the nose of the patient by smearing a little glycerine or cold cream over it, then to spread a handkerchief over the face, and drop the chloroform, drop by drop, over the part just below the nostrils. Bottles are to be had with stoppers adapted for this dropping process. This has certainly the advantage of being a more economical method, but it is not so safe, nor so convenient as the other. Should it unfortunately happen that a person has inhaled too much, or at all events does not appear to rally from the stupor, or should he, during the administration cease to breathe, with a low or absent pulse, livid lips, and all the symptoms of suspended animation, then no time is to be lost, for on the energy and promptitude displayed within the next few seconds or minutes will depend, in all probability, the issue of the case. The head must be kept low, the face should be slapped smartly with a towel dipped in cold water, ammonia at once applied to the nostrils, and artificial respiration commenced, by pressing upon the chest, so as to expel the air, and then allow it to expand again of itself. This should be repeated at the rate of about thirty to forty times per minute, (nearly double the ordinary rate of respiration), the surface of the body over the region of the heart being rubbed with a brush, or with the hand, warm blankets, or bottles, or hot bricks applied to the hands and feet, and the galvanic battery (which ought always to be in readiness where chloroform is frequently given) should be applied, to promote artificial respiration, in conjunction with the means mentioned above. The restoration of the pulse, the re-appearance of the healthy colour of the lips and countenance, and, above all, the breathing of the patient, or his showing any sign of returning consciousness, will be hailed with joy, and if there still remains great prostration, a little brandy and water, or wine, may be given at intervals.

As a rule, it may be said that no patient with disease of the brain, or with organic heart disease, or with much obstruction to the breathing, from disease of the lungs, ought to have chloroform. It should also be given with extreme caution to young infants, (in whom insensibility is very quickly produced by using a very small quantity) to persons advanced in life, and to persons of feeble vital power.

It need scarcely be said that many operations which formerly were very troublesome of performance, especially upon children, are now rendered comparatively easy, by the use of chloroform, many operations also requiring great nicety of manipulation, and almost impossible, without the co-operation of the patient—a co-operation never to be obtained in the case of children, and even of some grown-up people—can be performed with the greatest ease, and without any trouble on the part of the surgeon.

Finally, it would be impossible to omit mention of the great value derived from the use of chloroform in child-bed, and more especially in those cases of great difficulty and urgency occurring every now and then in the experience of all practitioners. For its introduction and use in this, as well as in all other departments of medicine, the world is indebted to the distinguished professor of midwifery in Edinburgh, Dr Simpson, whose genius has devised, and whose indefatigable energy has brought into general use this, which must rank first among the many improvements he has brought to bear upon the practice of medicine and surgery.

Although in this country chloroform has become exclusively used as an anæsthetic, in America, sulphuric ether, which was the first anæsthetic used anywhere, and was superseded by chloroform, is still much employed, being by some medical men considered safer. See *Sulphuric Ether.* Many other modes of producing anæsthesia have been proposed from time to time, such as the inhalation of carbonic acid, of the vapour of turpentine, and of the fumes produced by the burning of some species of fungi. None, however, have been able in every respect to rival chloroform. For the internal use of chloroform, see articles in *Dictionary* and *Appendix.*

APHONIA, or loss of voice in relaxed throat, is often quickly cured by brushing the back part of the throat over with a hair pencil, immersed in the following solution:—

Take of nitrate of silver or lunar caustic 1 scruple; nitrous ether 1 ounce; dissolve. It must not be applied too often, other- the caustic effect will be too severely produced.

Those suffering from enlarged and relaxed tonsils, with elongation of the uvula, such as clergymen, schoolmasters, and public speakers, or singers, will often derive benefit from this method of treatment, properly applied. Relief has also been obtained as above, in cases of that most distressing sore throat which often accompanies consumption. A little of the solution should be gently pencilled over the back of the throat, and allowed to trickle over the surrounding parts. The distressing hoarseness and the pain experienced both in speaking and swallowing are in this way often very much alleviated. Chiretta lozenges, as made by Messrs Duncan & Flockhart, of Edinburgh, have been found useful in some cases of relaxed throat, with loss or diminished power of voice, as also the tannin lozenges of the British Pharmacopœia.

ATHEROSPERMUM MOSCHATUM—a medicine introduced as a remedy in chronic bronchitis, and apparently with some success. Dose of the tincture—a teaspoonful in water every three, four, or six hours, according to circumstances.

It is well worthy of a trial in chronic cases which have resisted other methods of treatment; and the writer can speak favourably of its effects from a pretty extensive experience of its use in such cases. If it causes sickness, the dose should be somewhat diminished, and it should not be given so frequently.

BALDNESS.—Cajeput oil, a well-known green-coloured, stimulating and aromatic oil, has been highly recommended in the case of premature baldness, as an external application. It should be rubbed into the part or parts affected, with a piece of lint, night and morning, and if the effect is too irritating, it may be discontinued for a time and begun again. The following is also an excellent hair-wash:—

Take of

Tincture of Cantharides . .	1 drachm.
Spirit of Rosemary . . .	1 ounce.
Elder Flower Water, . . .	1 pint.
	Mix.

This wash may be freely applied night and morning, to the roots of the hair, by means of a piece of lint or sponge.

Or, take of

Eau de Cologne	2 ounces.
Tincture of Cantharides, .	2 drachms.
Oil of Lavender and Rosemary, of each	10 drops.

This may be applied once or twice a day, but if the scalp becomes sore, it must be discontinued for a time.

It may be stated as a rule, that all the vaunted specifics of advertising quacks fail in producing the results said to be obtained, and generally consist merely of some irritating or stimulating application, while many of them are positively injurious. Some cases of baldness, depending upon local disease, can only be cured by treatment directed to the removal of the morbid affection.

BANTING SYSTEM (or "Banting,") so called after Mr Banting of London, who has made his name celebrated from the fact that from being an immensely stout man, (so much so, that he was a burden to himself, and was obliged to walk down stairs backwards, and with great care), by adopting a certain regimen he soon became of normal size and weight, and was so grateful that he made known the details of his system in a public pamphlet,* the perusal of which soon gained him many imitators amongst all classes of the community. Let no one imagine, however, that there was contained in this pamphlet anything that was startlingly new, or anything whatever that was not perfectly well known to physiologists, and, indeed, taught by them in detail, at all medical schools. Mr Banting only brought forward a well-known fact in a striking manner; and, unfortunately, it is probable that the too general adoption of his system in cases not exactly suitable for it, has been attended with harm. In a word, the system consists in the avoidance, as far as possible, of all articles of food likely to favour the production of fat in the body, such as sugar, starch and fats of all kinds, as well as substances containing fat or assisting in its formation, such as bread, milk, butter, beer, sugar and potatoes. Malt liquors, port-wine, champagne, and the sweet wines, generally, are also to be avoided; and sherry, claret, or Madeira substituted. An occasional tumbler of grog, (made of gin, whisky, or brandy, without sugar), is not forbidden, and on the whole, a very liberal diet is allowed, as will be seen from the following table, taken from the amusing pamphlet of Mr Banting himself:—

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* Letter on Corpulence, addressed to the Public, by Wm. Banting, 1864.

"For breakfast take four or five ounces of beef, mutton, kidneys, broiled fish, or cold meat of any kind except pork, a large cup of tea (without milk or sugar), a little biscuit, or one ounce of dry toast. For dinner, five or six ounces of any fish except salmon, and meat except pork, any vegetable except potato, one ounce of dry toast, fruit out of a pudding; any kind of poultry or game, and two or three glasses of good claret, sherry, or Madeira; Champagne, port, or beer are forbidden. For tea, two or three ounces of fruit, a rusk or two, and a cup of tea without milk or sugar. For supper, three or four ounces of meat or fish, similar to dinner, with a glass or two of claret. For night-cap, if required, a tumbler of grog, (made of gin, whisky, or brandy, without sugar), or a glass or two of claret or sherry."

The system, with modifications suited to particular cases, is an excellent one, only it should be borne in mind that, (as recommended by Mr Banting himself,) it is not one which every corpulent person should rush headlong into, without, first of all consulting his medical adviser.

BATH (Hand-Shower).—A very useful article has been invented of this kind, consisting of a bell-shaped tin vessel, the bottom of which is pierced with holes, and from the top of which rises a hollow tube. To use it, the bell must be immersed in a basin of water, and then the thumb or finger must be placed over the aperture of the tube, which serves as a handle. If the thumb be kept firmly pressed over the aperture, the atmospheric pressure will keep the bell quite full of water while it is raised over the head or any part of the person to whom the shower is to be applied. By raising the thumb, the water is suddenly discharged in a shower. This bath is invaluable as a means of applying all the benefits of a shower bath to children, without any of its terrifying accompaniments. It is peculiarly valuable, and has been much used by the writer in cases of nervous disease among children, such as chronic St Vitus' dance, &c. The intensity of the shock may be varied according to the height at which the instrument is held; and, of course, the temperature of the water may be varied to suit the individual cases of disease.

As a rule, the use of the shower bath should not be persisted in with children to whom it continues to be very irritating and disagreeable, after the first few applications. When administered as above, many children become exceedingly fond of using it.

BATH (Swimming).—This form of bath, which is now—thanks to the liberality and enterprise of our town corporations, or of public companies—to be met with in almost every large town, must be looked upon as an important means of improving public health, as well as affording an opportunity of learning the art of swimming to many who, from being resident in midland towns, would otherwise remain ignorant of it. It is generally resorted to as a pleasure and luxury, or for the purposes of ablution, or healthful and most useful exercise. The bath should be spacious, and its temperature should be maintained at a pitch which will render its use agreeable as well as safe even for the comparative invalid who cannot remain any length of time in perfectly cold water. Salt water should also be added in sufficient quantity, if possible, as by this means its action is rendered more salutary. Sea water baths, especially on a small scale, are now readily procurable in one's own house or room by means of the sea salts, such as Tidman's, Palmer's, &c., now abundantly advertised, and sold at so moderate a rate as to put them in the power of most. As directions accompany the packets of salt, it is needless to give them here.

BATH (Portable Company).—It may not be generally enough known that there is a Portable Bath Company established in London, who send out not only the bath, but the hot water required for its use. The attendants sent regulate the temperature according to what is ordered by the medical men. They wear slippers—make no noise or disturbance, in a house where there is a case of disease requiring every quiet, and conduct everything in the most efficient manner.

Baths of all kinds can be had for hire from many of the principal ironmongers, by the day, week, month or year.

A portable bath for either hot or cold water may be had, consisting of a piece of waterproof cloth made up somewhat to resemble a sailor's hammock when slung. It is kept extended by two poles, which are passed along the sides of it through a hem; and there are two transverse poles to keep these asunder, and so give it more breadth. The poles may then be supported on chairs, or some other articles of furniture. The whole may be readily packed up and carried with ease from place to place. A portable bath of this kind has been devised which can be made to serve the purposes of a bath, a boat, and a tent even, when necessity requires.

BATH (TURKISH).—There are few subjects perhaps upon which less accurate information is possessed by the public than upon Turkish baths. The Turkish or Oriental bath has been known from antiquity, and used more or less by all Eastern nations, though at present it is chiefly patronised by the disciples of Mahomet. How much of the effeminacy and sensuality of that race may be attributed to its use or *abuse*. it is not easy to say. The ancient Greeks and Romans were also acquainted with the use of baths of a similar kind; and we can trace mention of them up to the time of Hippocrates, the Father of Medicine, himself. They were undoubtedly introduced into this country and into France with the Roman conquest, and were extensively made use of for centuries.

The great principle of the Turkish bath is that of a chamber supplied with heated air, not dry, but with a little fluid—just enough to moisten or soften the skin, and allow of the free escape of its secretions, which takes place to a remarkable extent, thus relieving congestion or obstruction of internal organs, and favouring the circulation of blood through the fine capillary vessels of the skin itself. Exhalation from the lungs also is favoured, so that the body gets rid of impurities by both channels. Of course the building in which the bath is so administered must be one adapted and intended for the purpose, with all the appropriate chambers, the tepidarium, calidarium, &c., and skilful attendants must also be provided, who, remarkable to say, are not found to suffer in health from their residence there. We would advise people not to be too anxious to have an enormous quantity of cuticle or scurf rubbed off their skin by the attendant whose duty this is. Some persons are apt, from having read the exaggerations that have been circulated on this subject, to measure the benefit they are likely to derive from the bath by the amount of the matter which is removed by the hair-glove. Finally, let it be clearly understood that the Turkish bath is a very useless remedy in some, if not in most of the cases for which its help is sought by the ignorant, and that in many cases it is likely to prove hurtful and dangerous, so that there can be no greater folly than its use by an invalid without the advice of a properly qualified medical practitioner, who will always be ready to point out the cases (and there are many such) likely to receive benefit from its proper and discriminate application. Some people are so stupid they cannot see that it does not follow that because A. derived advantage from the use of a Turkish bath, B. must necessarily do so, because his case seems to them to resemble A.'s. They forget that there may be many other circumstances connected with B.'s case which might make the use of a bath hurtful to him. We, therefore, hope to hear less for the future of the reckless gratuitous advice tendered by the public to their friends on this subject; and still less of the public being so silly as to follow the advice of those who are interested in the use of baths from pecuniary considerations.

Amongst the number of cases likely to be benefited (due attention being paid to the precautions aforesaid) may be mentioned chronic rheumatism, and gout, especially those cases followed by deposits in the joints, and scaly eruptions upon the skin. Certain cases of sciatica and tic douloureux, as also certain chronic diseases of the lungs, stomach, and liver. It has been known to act as a charm in removing local dropsies. as of the feet and legs, when not depending upon any serious organic disease. We hope to see a wider application of the Turkish bath as a means of treating disease upon scientific principles, as a preventive of disease, as a promoter of cleanliness and of health, and this is only to be effected by its moderate and judicious employment, since nothing will be more calculated to drive it into the regions of obscurity and neglect than the intemperate and ill-advised encomiums of those who are neither capable of understanding its action nor of judging of its effects, but who are disturbed by an uneasy desire to try anything and every thing that is new.

VAPOUR BATH.—Of course the Turkish bath is a vapour bath, and it is singular to find the use of the vapour bath so widely extended among semi-civilized or even savage nations. The Russian and the Tartar both employ it largely, and the Red Indians of North America make it one of their chief remedial agents. In Britain there are so many varieties of portable vapour baths invented or patented, that it would be invidious to enumerate; any who wish to procure them will have no difficulty in doing so. There is, however, one form of vapour bath so simple and inexpensive that it deserves mention. Having procured three or four new bricks, as porous as possible, let them be boiled in water for about an hour and half, by which time they will be thoroughly saturated with the heat and moisture. Place the heated bricks upon the floor, and seat the patient upon a chair over them; let a blanket, pinned closely round the neck, fall so as to cover the patient's chair and limbs, the steam thrown out is most abundant, and forms a most efficient vapour bath.

BED.—Heal's spring beds, although expensive, are a decided improvement upon those of feathers, hair, &c., inasmuch as when the body is moved they at once regain their position, and do not allow the same extent of the accumulation of the secretions of the body, of heat and moisture. They also save a great deal of hard work to domestic servants, as they do not require to be shaken up and tumbled about every morning, but always retain the same elasticity.

FIG. 1.

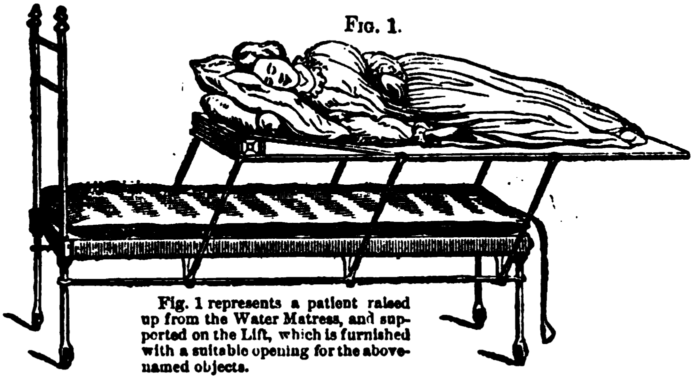

Fig. 1 represents a patient raised up from the Water Matress, and supported on the Lift, which is furnished with a suitable opening for the above-named objects.

The invalid bed lift of Messrs Hooper & Co., is very valuable in some severe cases, where it is impossible to change the patient's bed without great pain and trouble.

Iron beds, without curtains of any kind, are by far the most healthy for general use, and for public institutions no other kind will do.

In cases where there is great difficulty of breathing, so that the patient is forced to sit up in bed, a bed rest will be found of great value. One should be obtained that can be moved or inclined at different angles according to the wish of the patient, so as to cause as little inconvenience as possible in changing his posture. Bedsteads for invalids can be obtained with a part of the sacking made to rise at the head so as to support the back. This may be elevated to any desirable angle by means of two upright pieces with holes and pins through the bed-frame. While in this position the feet of the patient should always be supported by a foot-board, to prevent him slipping down in bed.

FIG. 2.

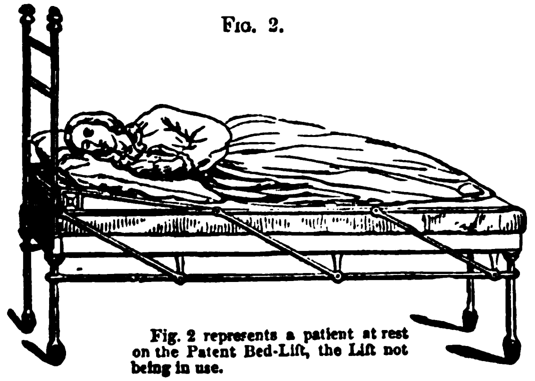

Fig. 2 represents a patient at rest on the Patent Bed-Lift, the Lift not being in use.

BLINDNESS — (COLOUR).—It was discovered by the late Dr George Wilson, the distinguished Professor of Technology, in the University of Edinburgh, that this is a much more common affection than is generally supposed. He proved conclusively from his experiments that a large number of persons were unable to distinguish the different colours, and also, that these same persons were quite unaware of the fact themselves. It follows that Railway Companies

FIG. 3.

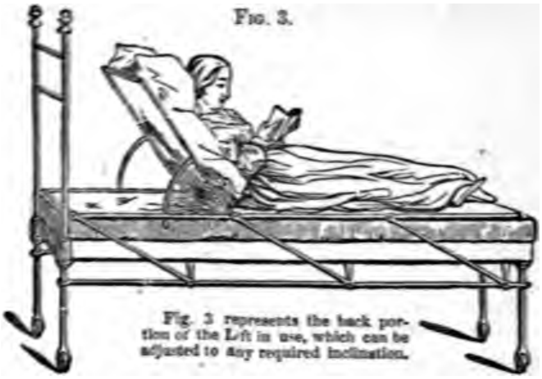

Fig. 3 represents the back portion of the Lift in use, which can be adjusted to any required inclination.

should be exceedingly careful with regard to this particular in the selection of their servants, as it is easy to suppose how accidents might arise from the wrong interpretation of signals.

A remarkable form of temporary colour blindness is produced by the administration of the new remedy, Santonine, for long round worms. Patients taking this drug complain that they see everything coloured green or red, and they are often afraid that the condition may continue, whereas it always ceases when the medicine is left off for a few days. It colours the urine of a deep citron yellow tinge, and this is at once changed to a brilliant scarlet on adding a few drops of solution of caustic potash to it, hence we may easily understand how the tissue of the eye may be acted upon to cause the above-mentioned effects. Santonine has even been tried as a remedy in some cases of blindness, but without much success as yet.

In some cases, colour blindness is complete, and in others it only exists to a slight degree. The following table of Dr Wilson's will show how frequent this defect is:—

1 in 55 confound red with green.
1 in 60 " brown "
1 in 46 " blue "

Hence, one in every 17·9 persons is colour blind. Most persons will be surprised to learn from the above table what a large proportion of people are unable to distinguish colours; but it is not after all so astonishing when we reflect how many people have peculiarities as to their other senses of taste, smell, touch, and hearing. Dalton, the celebrated chemist, was colour blind, and hence the affection is often called "Daltonism."

BREAD, AERATED. — There exist in most of our large towns manufactories for the production of this form of bread. Being very light, it is in many respects a wholesome and agreeable article of diet, and is found to agree better with some persons than bread made in the ordinary way. The chief objection brought against it is, a tendency to become disagreeably dry.

The process for aerated bread, which was first proposed by Dr Danglish, consists in preparing the dough with water which has been fully impregnated with carbonic acid gas. This is done under pressure in air-tight receptacles, and when the pressure is removed, of course, the gas expands the dough which it has been the means of forming; in fact, the dough effervesces, and the "sponge," as the dough is called, in this case is formed instantaneously, instead of, as under the old mode, by the slow extrication of carbonic acid gas, formed at the expense of a portion of the flour, which was thus altogether lost.

Bread made in the usual way with yeast or leaven has the first principles of fermentation, decomposition, and putrescence commenced in it, and when taken into a stomach in which, from disease or the weakness of infancy, the gastric juices are not sufficiently powerful to arrest the fermentive process, it becomes a source of discomfort, flatulence, diarrhœa, &c. On the contrary. the aerated bread, being vesiculated or lightened by the mechanical action of the fixed air or carbonic acid gas, has none of the putrefactive elements in its composition. It is therefore easily digested and assimilated, and may even be eaten quite new by the dyspeptic without his feeling any of the discomfort which new leavened bread generally produces on all but the most vigorous stomachs.

The aerated bread has a like salutary effect on infants when they are obliged to be brought up wholly or partially by hand.

The aerated bread forms a soft, jelly-like compound, when mixed with milk and water, which is easily sucked through the tube of a common feeding-bottle, and with a little fine sugar makes a food of which infants grow very fond.

It may be stated that it is more economical to bake bread at home, provided the flour can be obtained of the best quality, and the baking arrangements are such as to secure the production of good bread on every occasion.

Brown bread, now so largely used, especially by those of a costive habit of ody, is made of wheat flour ground oarsely, and wholly or partially left unressed, or of a mixture of this with rye, arley, or oatmeal.

BREATH.—Some persons suffer habitally from tainted breath; and many emedies have been proposed. The first ing to do is to ascertain the cause of this ery disagreeable affection. If it is deendent upon carious teeth, the dentist ould at once be consulted. The holes or vities in decayed teeth, besides at times iving off an offensive odour from their rious or ulcerating surface, become filled ith particles of food, which rapidly ndergo decomposition from the constant assage of the heated breath over them.

When foul breath proceeds from ulceraon of the gums, whether connected or ot with bad teeth, a medical man should e consulted, as also when there is ulceraon about the palate or posterior part of e nostrils.

The following is probably the best and ost effectual wash for destroying the dour from all sloughy sores or conditions f the mouth, gums, or throat, giving rise foul breath:—Take of solution of Permanganate of Potash, one ounce. 15 rops of this, mixed with two or three able-spoonfuls of water, may be used equently for rinsing the mouth. If the ul breath proceed from disordered condiions of the stomach or bowels, and be ccompanied with an offensive odour of e evacuations, 10 drops of the solution, ixed with two table-spoonfuls of water, ay be swallowed twice a day, with the est effect. A good plan also, in cases of e latter kind, is to take 5 grains of owdered charcoal three times a day, ither alone or with an equal quantity of hite bismuth. Charcoal biscuits are repared for this purpose, and may be had t some of the principal chemists. Animal harcoal is the most effectual. In a very ad case, which was quite incurable, and ery offensive, a respirator of charcoal ight be worn, such as is recommended to e used in cases where it is necessary to e exposed to foul or to infectious odours. he breath has such an exceedingly bad dour in cases of mortification of the ungs, that it will be necessary to employ ny and all of the means recommended nder the head Disinfectants, in order to ake the atmosphere of the room, or even f the house in which the patient is situted, at all tolerable. The peculiar odour f the breath in patients who are underoing what is called a course of mercury, so characteristic as to have received the ame among medical men of mercurial etor. In cases of bad breath caused by ffensive discharge from the nose, the iluted solution recommended above should be injected into the nostrils with a syringe and warm water should be, at the same time, freely injected. In such cases, tonics, cod-liver oil, and residence at a bracing part of the sea coast are very beneficial. It is again repeated, however, that such cases, especially if ulceration be suspected, should at once be put under the care of a medical man. The odour of the breath in the affection called pyæmia, which carries off so many of our cases of capital operation, especially in large and crowded hospitals, is of a peculiar sweetish, haylike odour, very familiar to surgeons who dread the occurrence of this symptom after an operation, knowing but too well that it is not unlikely to be followed by fatal consequences.

People who suffer from foul breath, from what cause soever, should never employ musk, or any other aromatic substance, with a view to covering or masking the unpleasant odour by a stronger one. Such practices are always disgusting, and, of course, have no effect in remedying the evil.

BURNS.—The following may be laid down as at once the simplest and the best, as well as the most readily applicable, and the least painful and troublesome method of treatment. Suppose a person, whose clothes have been set on fire, to be badly burned. The clothes should at once be cut off and removed. The patient must, however, be kept warm, as he invariably suffers much from cold and depression soon after a burn. The burned surface should next be smeared over with a feather with some oily substance, it does not much matter what, provided it be fresh. Carron oil is good, if it can be had (*i.e.*, equal parts of olive or linseed oil and lime water). Next, linen or muslin is to be steeped in this oily substance, and laid over the burned parts. Those parts which are much burned ought to be well protected with this, and finally a layer of cotton wool should be put on and secured by some light turns of bandage. Unless in the case of a slight scald, in spite of all that has been said or written to the contrary, nothing can be more cruel or absurd than to cover burns over with cotton wool, as it sticks to the surface firmly, and becomes saturated with discharge, which adds to the misery and pain of the patient by its unpleasant smell. All attempts to remove the cotton wool, too, cause great pain to the patient, whereas, if the oily dressing recommended above be first applied, both it and the wool may be removed at pleasure, and the dressing changed and renewed as often as may be necessary, or fresh dressings of another kind, or poultices, may be applied, according to the nature and demands of the case.

BURNETT'S SOLUTION, or, as it is sometimes called, Sir Wm. Burnett's Disinfecting Fluid, is one of the cheapest and best liquid disinfectants—see article *Disinfectants.* It is composed of a solution of chloride of zinc, and, from its cheapness, has been much used in the army and navy. When diluted with water, it may be used to cleanse night chairs, water closets, chamber utensils, &c., and is especially useful for this purpose in cases of gastric or enteric, or, as it is often called, typhoid fever, in which the stools are not only offensive, but are the means of conveying to others the contagious poison peculiar to the disease. The solution is so cheap that it may be freely used for the above and for similar purposes. It is not so good for washing the hands as some other disinfecting solutions (Condy's, for example), as it does not form a good lather with soap. It may be used as a stimulant, disinfecting and deodorising dressing to foul-smelling ulcers and sores, but for such purposes it must be freely diluted, according to the directions which are furnished for its use in the different ways recommended.

CALABAR BEAN, The Ordeal Bean of Old Calabar.—This is the seed or bean of a plant called the Physostigma venosum. It is of a brown coffee colour, kidney shaped, and about one inch long, by half an inch thick. The kernel is the active part. When given internally, it acts as a powerful poison, causing paralysis.

The Calabar bean has attracted much attention lately, owing to the discovery by Dr Argyll Robertson, of Edinburgh, that when a solution of it is applied to the eye, it causes contraction of the pupil. Now, previous to this, medical men were not acquainted with any substance which could be practically used for this purpose. It is well known that the opposite effect, viz., dilatation of the pupil of the eye, can be readily produced by belladonna, or by its active principle atropia, which are extensively used for this purpose in the treatment of eye diseases. The Calabar bean is used to counteract this effect of belladonna when it is excessive, or when it continues too long. It is also used in the treatment of disease of the eye where it is necessary to produce an effect the opposite to that of belladonna, and it is capable of application to many cases of alteration of the power of vision owing to the faulty adaptation of the structures of the eye to distances. A drop or two of the solution of an alcoholic extract in glycerine is applied to the eye, or still better, what are called Calabar bean papers are used for this purpose.

CARBOLIC ACID is obtained from the distillation of coal, of which process it is one of the products. It is an oily-looking liquid, having an odour and taste somewhat resembling creasote. Like creasote also, it possesses the property of destroying noxious smells and vapours, and is a powerful antiseptic or preserver from decay and putrefaction. It is given internally in the dose of one drop made into a pill, in cases of obstinate vomiting, and it might be tried in cases of sea-sickness, but its chief use is as an external application to foul and gangrenous sores or ulcers, and in cases of disease of the bones in which the discharge is very offensive. One part of the acid should be added to 8 or 10 of water to form a lotion. Some have advocated carbolic acid as a powerful disinfectant, directing that flat shallow vessels should be filled with a solution of the strength of the above lotion, and distributed through the sickroom, or that rags be dipped in it, and suspended at various parts of the apartment.

Carbolic acid forms long needleshaped crystals, (which are very readily dissolved.) and is sometimes obtained in this form. A weak lotion of carbolic acid has been used with benefit in some cases of uterine affections, where the discharge was of an offensive character.

CERIUM.—The oxalate and the nitrate of this metal have been used in medicine, though it has not been thought worthy of a place in the British Pharmacopœia.

These preparations have been principally used to allay vomiting, especially that occurring during pregnancy, and during the course of pulmonary consumption. Dr Simpson, of Edinburgh, has recommended the oxalate to be used for the vomiting of pregnancy, and it has been extensively used for this purpose, but with doubtful effect. It is a white powder, and is given in the dose of from one to three grains.

The salts of cerium have been used by some practitioners in the treatment of epilepsy, but here, also, it is not certain that their use has been followed by good results.

CHANGE OF TYPE.—The change of the type of disease is perhaps the question of all others which at the present time is most angrily discussed in the ranks of the medical profession, names of the highest eminence being ranged on both sides of the disputants. The question is this :—Is disease, as observed now, the same as disease observed forty years ago, and if so, how are we to account for the great change in practice, which may be best illustrated by the fact that now there is almost an entire disuse of bleeding instead of its nearly constant employment? or, on the other hand, has the type of disease changed, and are our inflammations of a different character than formerly, and can this different character be proved by the result of an

ation of inflamed parts after death,
trasted with those formerly ex-
? It will readily be understood how
w medical men are in a position to
opinion upon a subject which re-
so much experience and so much
d observation to settle it. Here, as
; similar questions, both parties are
y right to a certain extent; that
ay, our diseases at present, as a
e not of the severe or in medical
ge, sthenic type which marked them
ars ago, owing, doubtless, to the
e of many external circumstances,
must also be admitted that a closer,
accurate, and a more advanced ob-
on of the phenomena of disease, has
l the minds of medical men that
ere bleedings of many of the more
t of the routine practitioners of
ne by were unnecessary and even
It is well known that there were
a the times alluded to, who looked
eat distrust and apprehension upon
iscriminate blood-lettings of their
a who ruthlessly ordered poor dying
d women to lose 50 or 60 ounces of
because they were feverish! In
ere one to sum up all that has been
on this subject, it would amount in
ce very much to this—that whether
e of disease has changed or not, the
g system was carried to a most
us excess; that the type has pro-
ot changed quite so much as those
d school would have us believe, and
the present time there is not a little
of the non-bleeding system being
e by those who treat diseases ac-
to the theories advanced by others,
upon the merits of each individual

PPED HANDS.—In addition to the
tion given in the foot note, page
following will be found useful:—

nzoate of zinc, .	one drachm
of almonds, . .	one drachm
ld cream, . . .	one ounce

To be applied to the hands every
Or,

ide of zinc, . .	one drachm
rron oil, . . .	half-an-ounce
aple ointment, .	half-an-ounce

rine, either alone or with a small
y of sugar of lead added to it, is
eful, and ought to be applied to the
of those who suffer much in this
ter each time they are washed.
—Those who are obliged, from the
nature of their occupation, to wash
heir hands frequently, are the great
sufferers from chaps, the chaps
r cracks themselves becoming
langerous, in some occupations, from their liability to absorb poisonous substance into the blood. For the treatment of chapped hands, M. Testelin recommends the application of honey heated in an oven, and deprived of its viscidity by the removal of the froth formed under the influence of heat. It should be applied over the hands whenever they are washed, and spread with gentle friction. The above-mentioned author asserts that he has thus succeeded in curing chaps, and in preventing their return, in servant maids whose hands are frequently exposed to the contact of water, and who usually suffered from this inconvenient affection throughout the winter. He prescribed the same remedy with entire success in Brussels to a clear-starcher, although this person did not for a single day discontinue her employment.

CHILBLAINS, when the skin is unbroken, are said to be quickly cured by the following:—Take of tincture of iodine, two drachms; chlorinated solution of soda, six drachms. Apply over inflamed parts twice or thrice daily, drying in before the fire.

The following ointment is also very good, and may be used whether the skin is broken or not:—Take of benzoate of zinc, one scruple; fresh lard, one ounce. Mix. To be applied night and morning.

The following domestic remedy is also sometimes of service:—Shake well together in a bottle, spirits of turpentine, white vinegar, and the contents of an egg, in equal proportions. Rub gently when the chilblains are in a state of irritation, and until the redness and swelling are dissipated.

Two parts of glycerine to 100 of collodion make an excellent protective application.

When there is great pain and irritation, the following powerful remedy may be used:—Take of tincture of aconite, an ounce and a half; atropia, two grains; rectified spirit, half-an-ounce. Mix. Mark Poison. Twenty drops to be rubbed into the affected parts night and morning. *N.B.—It is not to be applied where the skin is broken.*

CHILD.—It not unfrequently happens that a mother, for some time at all events after the birth of her child, especially if it be her first, is unable to suckle it without great pain, owing to the nipple being so exceedingly tender, that when the child continues its efforts to suck, darting pains are felt through the whole breast. Some nurses are ignorant and foolish enough to believe, and to tell young women that this is good for them, and ought not to be relieved, when the fact is that many women are seriously injured, and run a great risk of abscess and fever from the excessive irritation they are forced to endure. In such cases immediate relief may be obtained by using one of Maw's glass nipple shields, with elastic tube and mouthpiece attached. Nothing could be more simple and perfect. The mouthpiece is just the shape of a well-formed nipple, and the glass shield fits over the nipple, supports it equally, and allows of the free, gentle, and painless flow of milk through it. A small brush, attached to a wire, is supplied with each, for the purpose of keeping it quite clean, and the whole is so cheap as to be quite at the service of the poorest of poor patients. Special attention ought to be paid to keep the tube and teat perfectly clean, else the child is sure to suffer in health. They ought to be thoroughly cleansed after each time they are used.

Similar in action to the above, and truly a great boon to those interested in the rearing of infants, are the various feeding bottles, which, by a simple mechanical arrangement, enable artificial food to be taken by the infant in the same manner that the milk is sucked from the mother's breast. This arrangement consists of a valve placed at the top of the bottle, where the tube enters it, which allows the food to flow from, but prevents its return to, the bottle. The teat at the end of the tube is pierced with holes after the manner of a leech-bite, the advantage of which is, that they only open when the teat is pressed upon. The tube and teat once full, the latter is emptied by pressure, and refills itself, as it is made of elastic material, so that the child obtains its food as it does in nature, so far as the action of sucking is concerned. Thick food may be given with these bottles by using a differently perforated leech-bite teat. Another advantage of the mechanism of these bottles is that air cannot be imbibed by the child, if they are properly used. Whatever feeding bottle may be used, whether Maw's or that of any other maker, one little matter requires special attention, namely, the ball valve at the top. This little valve is generally formed by a pea of metal, and should this metal be of such a nature, for instance lead, as to be slowly acted upon by the milk, the most serious consequences may arise; in fact, an infant may be slowly undergoing lead poisoning, without any one in the least suspecting the cause of the illness. Such a case occurred within the writer's knowledge, and was only detected by the acumen of the physician called to consultation.

The general establishment throughout the country of hospitals for sick children is likely to do much to improve the system of nursing and caring for children. In connection with this subject, we may state that those who wish to know more upon it should read the admirable little work by Dr West, called "How to Nurse Sick Children;" intended especially as a help to the nurses at the hospital for sick children, for the benefit of which institution it was published. It contains directions which will be found of great service to all who have the management of the young, whether healthy or sick; and is from the pen of one whose name is a sufficient guarantee for its excellence. Dr West tells us that between thirty and forty young women are trained every year as nurses in the children's hospital, and no one but a medical man can know what a great boon this is to the community at large; seeing that there is often no greater difficulty than to get a clever child's nurse. We make the following extract, as showing the sort of observation and knowledge required by those who would be skilful nurses for children:—"The signs of disease differ, as well according to the age of the child, as according to the disease from which it is suffering. Cries are the only language which a young baby has to express its distress; as smiles, and laughter, and merry antics tell, without a word, of its gladness. The baby must be ill, is all its cries tell one person; another, who has seen much of sick children, will gather from them more, and will be able to judge whether its suffering is in the head, or chest, or stomach. The cries of a baby with stomach-ache are loud, and long, and passionate; it sheds a profusion of tears; now stops for a moment, and then begins again; drawing up its legs to its stomach, and, as the pain passes off, stretches them out again; and, with many little sobs, passes off into a quiet sleep. If it have inflammation of its chest, it does not cry aloud, it weeps no tears; but every few minutes, especially after drawing a deeper breath than before, or after each short, hacking cough, it gives a little cry, which it checks apparently before it is half finished; and this either because it has no breath to waste in cries, or because the effort makes its breathing more painful. If disease is going on in the head, the child will utter sharp, piercing shrieks, and then, between whiles, a low moan or wail, or perhaps no sound at all; but will lie quiet, apparently dozing, till pain wakes it up again." This is quoted as an instance of the kind of observation that is required, and to show how much a skilful nurse in such matters may help the doctor to find out quickly what is the matter with his little patient who cannot speak for himself. It is very often the case that, when a child's nurse is asked what sort of a night he has passed, she either can give no answer at all, or one which is quite unsatisfactory. How important a question this is, however, may be in some degree realized by reading the following, also from Dr West:—"With the approach of night very many diseases get worse; and while you expect this to be the case, you must carefully notice what are the signs of increased illness which, in each instance, manifest themselves. Fever is generally higher—you must notice if it is very much so; the dull, heavy state of many children suffering from inflammation of the brain, or from some forms of fever, in which they lie dozing during the day, is often succeeded by delirium and loud outcries for some hours at night; or, if the child sleeps, it talks much in its sleep about its lessons or its play; and the observation that these things have happened will serve to help the doctor in his judgment. If, though these things do not occur, yet the child is restless, you must try to ascertain from what cause. It may be from pain, or it may be from thirst, or from cough which disturbs the child, or from difficult breathing, which grows worse whenever the child falls asleep, and then wakes him up again every few minutes; or it may be from that sleeplessness which illness brings with it. If, then, you are to give a useful report to the doctor at his visit, you must not merely be able to tell whether the child slept or was restless, but you must have watched so attentively as to be able to describe exactly the manner in which the night was passed; to report when the child slept, and how—when it was restless, and why." A good nurse further observes all particulars relating to the breathing of her little patient, cough, &c.; whether there is any tendency to sickness, or to excessive thirst; whether there has occurred anything like a convulsion, drawing in of the fingers or toes, squinting, or twisting of the features, flushing of the face, any eruption on the skin, or any fact whatever which may be of importance.

One of the most common and troublesome matters to deal with in the case of infants is a tendency to excoriation and redness of the skin in those suffering from diarrhœa. Now, this is very troublesome; and from the excessive irritation gives rise to great suffering. It can be almost entirely prevented by extreme cleanliness and good management after the bowels are moved. Soap must not, however, be used as it increases the irritation, but very thin starch should be employed instead. The child should then be carefully dried with a soft napkin, and the parts dusted with Fuller's earth or with zinc powder, and afterwards dressed with an ointment made with one drachm of benzoate of zinc to an ounce of lard. The ointment must be kept quite fresh, as rancid ointments never fail to increase the irritation and soreness.

Many children are destroyed by being too much moved about when suffering from exhaustion owing to excessive sickness, purging, or some severe disease. In such cases the little patient is lifted by its mother or nurse from its cot many times in an hour, whereas it should never be removed from the recumbent posture at all. By turning it from side to side it may be shifted and changed, and even a new night-dress may be put on in this way, if it is slit up the back and run together afterwards by means of a few stitches.

Sickness and diarrhœa are among the most frequent troubles of children, especially those that are brought up by hand; in fact, many children at one time or another of their existence are reduced so low by them that, to an inexperienced spectator, it would seem almost impossible they could recover. Now, in checking the tendency to these, the nurse can do a great deal by means of a little common sense, and can greatly aid the doctor. Foolish and inexperienced nurses, when a child is either sick or purged after everything that he takes, go on cramming him with food under the idea that as what he has had has come back or gone through him, it can have done him no good, and therefore he had better have some more. It is painful to see the poor little creatures sometimes in this state, vomiting taking place every time they are moved. The obvious indication under such circumstances is to give the tired and irritable stomach an hour or two's rest at a time, and then cautiously at first, and *without moving the child*, give only a small teaspoonful of cold water, to be followed, if that is retained, by a little cold milk and water, or something of the simplest description, *small in quantity and cold*. If that is retained, a gradual return to its accustomed food may be attempted.—Chlorodyne is a most useful addition to our medicines for children's diseases, especially diarrhœa. It requires, however, to be very carefully and cautiously used.—See *Chlorodyne*.

CHIRETTA, or CHIRATA, is an admirable bitter tonic, improving the appetite, and giving tone to the stomach. Hence it is useful in cases of indigestion with debility, and in convalescence from disease. It is very similar in its action to gentian, and is probably not superior to that drug. It is often called bitter-stick. The infusion and tincture of chiretta are now in the British Pharmacopœia. The dose of the former is from half an ounce to an ounce and a half, and of the latter from half a drachm to a drachm.

Chiretta is much used in India as a substitute for gentian. It contains a bitter principle, and very little volatile oil; hence it is a more simply intense bitter than gentian.

Chiretta lozenges are made by Messrs Duncan & Flockhart, of Edinburgh, for use in relaxed throat, with loss of voice.—See *Aphonia*.

In India chiretta, or, as it is variously called, chirayta, chirayita, chirata, and chiraeta, has been used instead of quinine as a remedy in intermittent fever or ague, and it has also been prescribed by some in preference to sarsaparilla in cases in which that drug is specially used. It is also said to be peculiarly beneficial in cases of want of tone dependent upon affections of the uterine system.

CHLORODYNE.—There are few remedies which have proved more general favourites than the above. It is said to consist of Prussic acid, in combination with morphia, chloroform and Indian hemp as its principal components, and it possesses combined in an eminent degree, many of the best properties of an opiate and an antispasmodic. It is agreeable to the taste of many persons, and can be given either alone in water, or combined with other remedies. Perhaps its greatest value has been in cases of irritating cough, as in consumption, and in irritation of the bowels, accompanied by pain and diarrhœa. In the former case 5 or 10 minims in an ounce of camphor mixture three times a day, and in the latter the same dose in an ounce of chalk-mixture may be given. In cases of acidity, with much irritation of the stomach, an excellent prescription is, 10 or 15 drops of chlorodyne with 15 to 20 grains of bicarbonate of soda, in a wine-glassful of water, two or three times a-day. From its warm, aromatic taste, and comforting action in cases of griping and uneasiness in the bowels, it is generally a favourite remedy with patients; and, although, in the strictest sense of the word, a quack medicine, and, of course, not allowed a place in the British Pharmacopœia, yet it is very much prescribed by some medical men. Either alone, or combined with other remedies, it has proved of eminent service in cases of sea-sickness which have resisted many other kinds of treatment. It has been extensively used, both in this country and abroad, by domestic as well as by regular practitioners, in the treatment of diarrhœa and dysentery, and lately it has been authoritatively stated that it is one of the best of known remedies for cholera. One thing is certain, that its uses are so varied and general that it should form part of the equipment of every domestic medicine-chest. Chlorodyne of known composition can now be obtained, so that those who have a very proper objection to using remedies the constituent parts of which are kept secret, may employ it without further scruple. In the recent cholera epidemic at Manilla it was stated that chlorodyne had proved more efficacious than any other remedy which had been tried. Of course, as it has the action of a powerful opiate, it must be given with extreme caution to young children, and in all cases where opiates are likely to exert an undue action.

Infantile Diarrhœa.—For a young infant 12 grains of bicarbonate of soda in 5 minims of chlorodyne and an ounce and a half of water form an excellent mixture where there is griping and flatulence; one teaspoonful may be given twice or thrice in the twenty-four hours. When diarrhœa is present, chalk may be substituted for soda.

CINCHONINE.—The muriate and sulphate of cinchonine, as well as cinchonine itself, have of late been much recommended as substitutes for quinine. They have certainly this advantage, that they are much cheaper, but pretty extensive experience of them in hospital practice has not warranted physicians in coming to the conclusion that they are to be considered at all equal to quinine, either as tonics, or as antiperiodic remedies. Some patients complain of low and depressing sensations after taking cinchonine or its salts. There can be no doubt, however, that they are worthy of a more extensive trial than they have yet received at the hands of the medical profession. Quinine is such an expensive remedy, that of course, it would be a great boon to the poor if a cheap substitute equally efficacious could be obtained, and it is far from improbable that some of the preparations of cinchonine may be found, which will take its place.

CITRATE OF IRON and STRYCHNINE.—This is one of the best of the new tonic and strengthening chalybeate preparations. It is very useful in cases of nervous debility, accompanied with uterine derangement; and also in cases of anæmia, with debility, languor, and lowness of spirits. It is a beautiful, sparkling salt, of a rich, purplish brown colour. The following prescription may be taken as a good example of the way of administering it; and if it agree, the dose may be doubled with advantage.

Take of
Citrate of iron and strychnia, one scruple;
Chloric ether, one drachm;
Water, half a pint.—Mix.

Two tablespoonfuls three times a-day.

For those who dislike a sweet taste, the chloric ether may be omitted; and if it be desired to give an acid tonic, two drachms of dilute nitric acid may be substituted for the chloric ether. It may also be given in the form of pill if required.

It has been used by Dr. Brown Sequard, at the National Hospital for the Paralytic and Epileptic, in the treatment of paralysis of certain kinds. 100 grains of the salt contain only one grain of strychnia. Dose, 3 to 5 grains for an adult.

CLAY, as a Dressing to Fœtid Sores.—It is well to know that, when no other substance—such as charcoal—can be obtained, clay poultices may be applied to sores, the discharge from which is of an offensive nature. The clay must be used only after having been finely powdered, and after all impurities are removed; and it may be employed either alone or mixed with bread, linseed meal, or the materials commonly used in the making of any ordinary poultice.

Dr Schreber of Leipzic recommends the use of clay as the most "energetic, the most innocent, the most simple, and the most economical of palliative applications to surfaces yielding foul and moist discharges." He moreover considers that it has a specific action in accelerating the cure. Clay softened down in water, and freed from all gritty particles, is laid, layer by layer, over the affected part to the thickness of about a line. If it become dry and fall off, fresh layers are to be applied to the cleansed surface. The irritating secretion is rapidly absorbed by the clay and contact of air prevented. The cure thus goes on rapidly. This clay ointment has decisive action in cases of fœtid perspiration of the feet or armpits. A single layer applied in the morning will destroy all odour for the day. It remains a long time supple, and the pieces which fall off in fine powder produce no inconvenience.

Nothing certainly could be more simple than the above method. It may be applied by means of a feather or a camel's hair pencil, care being taken not to put on too much at a time, but rather to apply it in fine layers.

CLIMATE.—The question of acclimatization is one of great importance in many respects, and one demanding the closest attention of naturalists, of political economists, and of scientific men generally throughout the world. For a time the idea seemed to have acquired a pretty firm hold of the public mind, that men and animals, after passing, say from an arctic to a tropical climate, acquired, after a certain time, an immunity from the evil effects which the change was calculated, in the first instance, to produce. Many careful observations and experiments have been conducted in this country and (with regard to animals specially) in France with a view to determine, if possible, how far we are justified in relying upon this hypothesis. Now, although wonderful results were at first obtained—so wonderful that it seemed likely that the power of certain animals to endure changes of climate were almost unlimited, it must be admitted that recently our ideas have been forced to undergo a revulsion on this subject, as we have found that, in many cases, the endurance was only a temporary one; and, more especially, was not likely to be followed out by the propagation of a vigorous progeny.

That man can live and flourish in very cold or in very hot temperatures (provided that in the latter cases there be no malaria or marsh poison) is proved by the fact that the Esquimaux, when well nourished, are a remarkably strong and healthy race; and that the same observation applies to many of those tribes inhabiting regions of the world characterized by the highest temperatures. Experience has now abundantly proved, to the satisfaction of all, that our emigrants in the North American States, living in a climate with a much lower temperature than that to which they had been accustomed, not only enjoy good health, but transmit it to their progeny. In fact, it is questionable whether, if the external conditions surrounding the emigrant be favourable, he is not improved in health, mentally and physically, so that he may become the progenitor of a superior race. A similar certain toleration, and possible improvement, cannot so confidently be expected from Europeans emigrating to hot climates, although we have seen how well many thrive in certain parts of Australia and New Zealand; and it is a melancholy and well-known fact that residence in a country much hotter than our own is incompatible with the long preservation of health. Dr Parkes, in his work on practical hygiene, in speaking of this subject, says,—"There is a general impression that Europeans do not flourish in countries much hotter, *i.e.*, with a yearly mean of 20° Fahr. higher than their own—as in many parts of India; that the race dwindles, and finally dies out; and, therefore, that no acclimatization of race occurs. And certainly it would appear that in India and in the West Indies sickness and mortality increase with length of residence; and there is some evidence to show that the pure race, if not intermixed with native, does not reach beyond the third generation. Yet it seems right to say, that so many circumstances besides heat and the other elements of climate have been acting on the English race in India, that any conclusion opposed to acclimatization must be considered as based on scanty evidence. We have not gauged on a large scale the effects of climate, pure and simple, uncomplicated with malaria, bad diet, and other influences adverse to health and longevity."

For some remarks as to the peculiar effects of heat, the reader is referred to the article upon *Sunstroke* in the Appendix.

The effect of winds, or of movements of

the body of air, whether hot or cold, with which we are surrounded, is very remarkable. In cold climates, a very low temperature, which had easily been borne before, becomes then unendurable. The movement, on the other hand, of hot air over the surface of the body is said, by greatly aiding evaporation from the skin, to chill the body, in spite of the warmth of the air.

It has long been a matter of dispute among medical men whether or not mountain-air—that is, air rarified, or exerting a less pressure—is favourable to health or the reverse. There seems now to be little doubt of the fact, however much wrangling there may remain as to the explanation of it. Not only in such situations are consumption, scrofula, and similar diseases, very rare in occurrence, but their progress is actually arrested in the case of strangers who go to reside in the localities. The high Alps of Switzerland, the mountain-ranges of Thuringen and Silesia, and of Mexico and Peru, may be mentioned as typical examples of places where consumption is unknown to originate, unless from some special social habit or vice, or from want of food, etc.

Much remains to be done in the way of observation and experiments to enlighten us as to the relation of the presence of ozone in the atmosphere to a healthy climate.—See article *Ozone* (Appendix).

It would be impossible to conclude this subject without a word upon the question of Malaria or marsh poison, now known to be the cause of so many diseases, especially fevers of different kinds. The popular idea is, and it is so far correct, that these poisons are to be met with in low situations, and that an elevation of a few feet will, in many cases, give a protection from their evil consequences; but it should also be known that, in other situations, they have been found in active operation at an elevation of 6000 feet; and that in some instances their favourite locality is in elevated plains, at elevations varying from 1000 to 3000 feet. As a general rule, the greater the elevation the greater the security; and it may be assumed that, although exceptional instances occur, yet a moderate elevation of, say 1000 feet, will generally be sufficient to afford promise of immunity. The whole subject, however, is one of deep interest, and is now undergoing full and highly necessary investigation at the hands of competent observers.—See article *Health Resorts* in Appendix.

COAL TAR.—This is used in several forms as a disinfectant (see article *Disinfectants*—Appendix), and also is said to have been applied, in solution, with success in the treatment of itch. The "liquor carbonis detergens," or concentrated alcoholic solution of the active principles of coal tar, is used as a dressing for putrid sores in the form of emulsion with a little water, and is a favourite remedy with many in skin diseases, especially of a scaly character. Its antiseptic or preservative qualities have made it a favourite with those interested in the collection of specimens of natural history.

CODEIA is one of the active principles of opium, and has been used in the form of lozenge for the purpose of allaying irritating cough in cases in which it was not thought desirable to produce the full and characteristic effects of opium itself upon the constitution. It is well known that some persons cannot take opium in any shape without unpleasant effects, and it is to such persons that the above lozenges may prove valuable as a means of soothing cough that has resisted other more simple methods of cure.

COLLIERS, DISEASES OF.—The miners of England alone number about 300,000, and it is well known that, as a class, they are short-lived and unhealthy, breaking down prematurely from a variety of diseases, but principally from those engendered by the circumstances under which their work is carried on. Light and fresh air are both essential to health; and if many have sufficient difficulty in preserving vigour "with all appliances and means to boot," what must be the disadvantage under which the collier labours when deprived of both essentials? Almost all the mines of this country are insufficiently ventilated, and accidents from choke-damp and fire-damp are of too common occurrence, and it is to be feared will continue so unless an unlimited supply of air be afforded for the consumption of the men, horses, and lights. It is stated in the Proceedings of the Civil Engineers that in mines, *if it is desired to keep up the greatest energies of the men*, no less than 100 cubic feet per man per minute (6000 feet per hour) must be given; if the quantity is reduced to one-third, there is a serious diminution in the amount of work done. Mr. Robert Stephenson even thought that 100 cubic feet per man per minute would not be enough. This includes, of course, all the air wanted in the mine for horses, lights, &c.

Miners suffer much from the inhalation of particles of carbon, coal, charcoal, or dust in the pursuit of their occupation. These being swallowed, produce dyspepsia, or still worse, and, as is more frequently the case, being inhaled, and becoming lodged in the lungs and air passages, give rise to bronchitis and inflammation of the lungs, and to a peculiar disease now well known as "miners' lung," in which innumerable atoms of charcoal are incorporated with the substance of the lung itself, the epithelium of which has actually grown over them.

The collier also suffers much from the damp, and from the constrained position in which he is often obliged to work for whole days together.

The grand remedy is efficient ventilation of the mines, which is at once a preventive of the sudden explosions and of the continual deterioration of health to which our colliers are ever subjected. In addition, it is of great importance that employers should endeavour by all means in their power to elevate the moral and social character of those who, being debarred from the employments and enjoyments of open day, are too apt in times of recreation still further to enfeeble their health by debauchery and excess of all kinds.

Some idea of the difficulty of effectually managing the ventilation of mines may be acquired when it is known that in many cases the air has to travel a distance of from 10 to 40! miles through the various long winding galleries, before it arrives finally at the up-cast shaft as it is called. The method employed is on the same principle as the ordinary fire and chimney: that is, a fire is lighted at the bottom of one shaft, up which the air rapidly flows, after having been made to traverse down the other shaft and along the various galleries. Double doors and partitions are used, and much skill is shown in directing the current of air for such incredible distances. In mines in which there is only one shaft, this is divided in two, a fire being lit at the bottom of one half, while air descends down the other.

COLLODION is made by dissolving two scruples, or 40 grains of gun cotton, in three ounces of ether, and one ounce of rectified spirit. It is a very useful application to cuts, small wounds, and abrasions, chapped hands, or chapped nipples, &c., &c. It should be gently applied by means of a hair pencil. The ether evaporates, and a thin layer of cotton is left as a covering, which is not removed by washing in water. Collodion may also be applied to leech bites, or small wounds of any kind, to stop the bleeding, which it does, owing to the contraction of the film of cotton constricting the vessel of the bleeding part.

A mixture of two parts of glycerine, to 100 of collodion, makes an excellent protective application to chilblains, burns, bedsores, &c. It has also been applied as a protective covering in many cases of disease of the skin, accompanied by great pain, itching, or irritability. It forms a good covering for pills, the unpleasant taste of which it conceals, without in any way interfering with their action.

One of the best known ways of applying a liquid blister, is to paint the surface of the skin over with collodion, in which cantharides or cantharidin, the active principle of the fly blister is dissolved. It may be applied with a brush directly, which saves the trouble of spreading a blister, and vesication is as quickly produced as with the ordinary plaster, while it is much less bulky, and more convenient in every way for general use.

Collodion is a very good application to small cuts after they have been strapped or stitched up, when it is desirable to exclude the air, and to let them heal, if possible, by what is called "the first intention." It causes a little smarting for a few seconds, but this soon passes off, and a pellicle is left which forms an admirable protective covering for the wound, and allows the healing process to go on below undisturbed. Collodion is best kept in a stoppered bottle, the stopper of which may be fitted with a camel's hair pencil, to allow of its ready application.

CONFECTIONARY, Coloured.—The practice of colouring confectionary by means of poisonous substances, is still carried on by certain dishonest tradespeople, who use various yellow colouring matters, such as chromate of lead, to give an enticing appearance to different articles. Chromate of lead has also been used in the manufacture of sham egg powders. Even arsenic, and the acetate and carbonate of lead, with many other poisonous and pernicious substances have been used to adulterate confectionary, so that people cannot be too careful to deal with respectable tradesmen, as they have not only to fear being poisoned, but also being cheated; it being well known that a great part of what is popularly believed to be sugar, is mainly made up of plaster of Paris, or some such worthless rubbish.

COOKERY FOR THE SICK.—It seems almost unnecessary, and yet is of such importance that we will not offer any excuse for commencing this article by stating, that, as a general rule, *no cooking of any kind whatsoever should be done in the sick chamber*, and it cannot be too much insisted upon that all cookery for the sick must be simple.

Perhaps the article of all others most commonly desired to be had in a proper state by medical men for their patients is beef-tea. An inquiry lately made into the cost and quantity of beef used for the purpose of making beef-tea in one of our London Hospitals elicited the facts that the beef used for the above purpose alone costs something over £1400 per annum; that about 50,000 pounds of beef—*i.e.*, about 1000 pounds a week—are used in its manufacture; and that, in fact, the beef-tea used by each patient costs about one-half of the whole sum expended upon his entire diet. Now, it will be seen at a glance that if this enormous consumption takes place in one hospital only, the total amount used throughout the country must be so very large as to render it imperative, now that meat has become such an expensive article of food, that all classes should be informed upon the subject of economising their resources in this respect. The important question is how to get beef-tea of the best kind, and also what use to make of the *bouilli* or solid material from which the beef-tea is made. We hope that the day is come when it will no longer be thrown away, as it has been, fat, muscular fibre, and all, into the pig-wash tub. In fact, according to the present ruinous system, by far the greatest portion of the meat is wasted, because, if we suppose that there is only one ounce of solid material in one pint of beef-tea made from sixteen ounces of beef, what becomes of the fifteen ounces? They are thrown away! Now, we are told by the best authorities that the whole could be assimilated by the animal frame, and used as food; it therefore follows that there is great waste, due entirely to our system of cookery. It is quite true that the beef-tea contains, if properly made, all that we wish it to contain as beef-tea; but the beef itself ought to be turned to some other good account, so that it may never be said that out of 50,000 pounds of beef used to make beef-tea, 45,000 pounds are annually thrown away in one institution, especially seeing that these 45,000 pounds consist of fat and albuminous tissues, all capable of being made use of as nutriment. This is certainly an abuse; and, indeed, any one who is familiar with the practice of medical men knows that there has been a great deal of delusion on the subject of beef-tea generally, and that it has been most recklessly and most wastefully ordered on all hands—due regard not being had to the fact that, while it is an excellent article for administration in those cases in which the stomach is temporarily enfeebled so as to be quite unable to deal with solid food, it is yet a poor substitute for meat when that can be taken.

Dr Edward Smith, in his work on *Food*, just issued, has given expression to his views on this subject in a way which we hope will do much to clear up the error that prevails in the minds of many:—

"Preparations of meat called *essences* are now largely introduced into England, and are attracting an unusual share of public attention. They are prepared from fresh meat in such a manner that the fibre and fat are left behind, and only osmazome, or the flavouring property of meat, certain salts, and a very small quantity of albumen, remain. The quality of this food is determined by the first mentioned substance; and with a teaspoonful of the essence about a pint of soup may be made, which, although *thin* to the palate, is as full of flavour of meat as when beef-tea is prepared at home. The salts are not perceptible to the senses; but they consist, in part, of phosphates, and are very valuable. The albumen is necessarily in very small quantity, from the small amount of the whole essence which is used; but of the latter only a part consists of albumen.

"Hence, what is the dietetic value of this preparation? No *combination* of nutritive elements can be offered to the body in a form more concentrated than its own flesh; and, as has been shown in this work, the flesh of animals is almost identical in composition with our own flesh. It is true that flesh consists of water to the extent of 77 per cent., and that only 23 per cent. of the whole is nutritive material; but the solid elements cannot be obtained in a nutritive form without water, neither could they be digested in a solid state. Hence, whilst for the sake of argument it may be allowed that the bulk of flesh may be reduced without lessening its nutritive value as a food, this reduction can be carried only so far as to leave one-fourth of the whole, or 4 oz. in 16 oz. But it is affirmed that 1 oz. of the essence of beef is derived from 30 oz. of beef, and yet it contains the nutritive parts of the larger quantity.

"Can this be so? A large amount of fibre, with fibrine, gelatine, and fat, and some albumen, is left behind; and it is affirmed that the former is not nutritious, because dogs fed exclusively upon it do not live. There is a serious and obvious fallacy in this. That fibre is digestible, is proved by the fact that in fresh meat nearly all of it is digested—only a minute quantity passing off by the bowel; and that it is highly nutritive is proved by its chemical composition. Hence it is a folly of the grossest kind to throw away this material. That it will not alone support life is quite certain, from the facts that salts necessary to life, and fat highly important to life, have been removed; but this does not in the least prove that it is not of great value as a part of a dietary.

"As fibre and fat constitute by far the greater proportion of the solid parts of flesh, it follows that the so-called *essences* contain but a very small proportion of the nutritive parts of flesh, and that they can scarcely be regarded as nutrient foods.

"When one teaspoonful of the essence has been dissolved in about a pint of hot water, and seasoned with salt and pepper, it forms an agreeable and stimulating food; and in this respect, as also in the small quantity of nutriment which it offers, it must be ranked with tea, coffee, and chocolate. It may be advantageously thickened by adding a little sago; and vermicelli, maccaroni, and various Italian pâtes, are agreeable and proper additions.

"Its proper place is that of a luxury, and in some states of disease it is also a valuable food; but in health the quantity of nutriment contained is too small to be computed, and its action upon nutrition is rather indirect, by stimulating the vital actions, than direct, by supplying food. It is manifestly better for the housewife to make beef-tea from shins of beef, so as to obtain much gelatine, or from gravy beef, and to serve up the solid part as food at the same meal. Our continental neighbours eat their *bouilli* and *potage* at the same meal, and so should we."

The *extractum carnis*, or extract of ox flesh, of Professor Liebig, can be had, beautifully put up in porcelain jars, which contain about a pound each, of a substance of a rich brown colour, which smells very strongly of ozmazome, or the fragrant principle of cooked meat. One pound of this is said to be equal to the soluble matter of thirty pounds of ox flesh. It may be very easily transformed into an agreeable and savoury article of diet, by adding a teaspoonful of it to a cup of boiling water, with pepper and salt to taste.

Liebig's soup for invalids is made as follows:—

Take half-a-pound of newly killed beef or fowl, chop it fine, add twelve ounces of distilled water, four drops of pure muriatic acid, 34 to 67 grains of common salt, and stir well together. After an hour the whole is to be thrown on a conical hair sieve, and the fluid allowed to pass through without any pressure. The first thick portions which pass are to be returned to the sieve until the fluid runs through quite clear. On the flesh residue in the sieve pour slowly sixteen ounces of distilled water, and let it run through. There will be thus obtained about 16 ounces of cold juice, cold extract of flesh of a red colour, and possessing a pleasant taste of soup; of which a wine-glassful may be taken at pleasure. It must not be warmed, (at least not to a greater extent than can be effected by partially filling a bottle with it, and standing this in hot water), since it is rendered muddy by heat, and deposits a thick coagulum of albumen, and the colouring matter of blood. It must be confessed, that to many persons this soup has a raw and disagreeable flavour, which, however, may in great measure, if not entirely, be concealed by the addition of spice, or of a wine-glassful of claret to each teacupful of soup.

In cases of emergency, and where expense is no object, the writer recommends the following as the best essence of beef that has ever been submitted to his notice, and from frequent trials he can speak highly as to its efficiency. It is from a recipe of Dr Druitt:—Take a pound of lean beef, free from skin and fat; chop it up; put it into a large earthen jar with a cover; cement the edges with flour paste; tie it up tight in a cloth: plunge it into a saucepan, and let it boil for two hours; then pour off the liquid essence; and the coagulated muscle, which has been made to shrink and express its juice by the heat, will be found below in a state useless for food; let the essence stand till cold; and skim off the fat. This will be found most palatable and supporting, and will be retained by the stomach when almost everything else is rejected. It may be eaten cold in a jellied state with chicken, &c. It is invaluable in cases of intense debility, in chronic vomiting, sea-sickness, and every ailment where it is desirable to supply nutriment in the most concentrated and digestible state. Any other meat, fowl, or game may be treated in the same way as above.

Another excellent method, though inferior to the above, is as follows:—Take one pound of lean beef, mince it fine, and add to it one pint of cold water. Place it in a pot by the side of the fire, so that it may heat very slowly. Let it stand two or three hours before it is even allowed to simmer, and then let it boil gently for 15 minutes. Skim off all the fat. Mutton or veal broth may be made in the same way, and to all of these, if desired, a few ounces of rice or arrowroot may be added as thickening.

Extract of bullock's blood is now a favourite remedy in Germany with many physicians, but has not been extensively made use of in this country. It is made by straining the blood of the ox through a fine sieve: the residue to be retained, dried, and powdered, and given in a dose of 5 to 10 grains 3 times a day, according to the age of the patient. Raw meat, finely chopped, and sprinkled with a little salt, sometimes with a small proportion of pepper, is prescribed in Germany for weakly children, about an ounce being given daily to a child five or six years of age. Children soon get to like it, but it is now a question whether the recent discovery of the frequent propagation of tape-worm by raw, or insufficiently cooked meat, may not be a barrier to the treatment.

Port wine may be given in the form of a jelly, according to the following excellent form:—Take 2 oz. of isinglass, 1 oz. of gumarabic, a bottle of port wine, loaf sugar and spices according to taste. Let it simmer until it is perfectly dissolved. Then put it in a shape. To be eaten when cold, two or three times a day, in cases of great debility where port wine is ordered.

There is a good method of making essence of beef with vegetable juice:—Take slices of undressed beef, free from fat and skin, and slices of turnips pared. Lay them alternately in an earthen pipkin till it is half filled. Then cover the pipkin with a bladder, tied so close down as to exclude water and air; then put the pipkin into a large vessel full of water, and let it boil two or three hours. Half a cupful of this very strong essence may be given at a time to a delicate person, or a smaller quantity of it may be given to a child.

Strong Veal Broth.—Take two pounds of veal, free from fat, and ½ lb. pearl barley. Boil them till they become like a cream, and can pass through a sieve. It may be taken warm or cold, with salt.

Charvil Broth.—Take a liver quite fresh, cut it into slices, add to it two good handfuls of charvil, and boil them in two quarts of water till reduced to one quart; strain. A tea-cupful may be taken warm every day.

Gloucester Jelly.—Take one ounce of sago, one of rice, one of pearl barley, and one of candied eryngo root; put them into a small pan, with two quarts of water; let it boil till it is reduced to one quart; strain it through a sieve, and give the patient a tea-cupful three or four times a day, with wine and lemon peel if desired.

Strengthening Jelly.—Take two calves' feet, well cleaned; put them into a jar; to which add one ounce of isinglass, two ounces of sugar candy, with two quarts of new milk. Then bake it with some bread over the jar. When done, strain it off, and take a tea-cupful, just warmed before the fire, twice or three times a day.

Des Russ au Bouillon.—Take some *very* strong stock, make it quite hot; mix the yolk of an egg to about the quantity of a wine-glassful of the stock. Put it in small cups, and steam it as you would a pudding for ten minutes. Serve it very hot.

Cow-heel Jelly.—Put one cow-heel into a pan, with three quarts of milk, with a little sugar, mace, and cinnamon. Let it bake for six hours, then strain off, and let it cool.

Pounded Meat.—Take a piece of raw mutton, quite free from skin and fat; cut it into small pieces, and pound it in a mortar. Then put it into a saucepan, and warm it over the fire for ten minutes or less in its own gravy (of course without water). If too dry, add a spoonful of *clear* gravy (not stock), or a little beef tea. It should be served very hot.

Toasted Mutton.—Cut slices as thin as possible from the prime of a fresh loin of mutton, toast them with a toasting-fork before the fire. It is very light of digestion when prepared after this most simple fashion.

Chicken Panada.—Cut up a chicken or young fowl, take off the skin, put it into a stewpan with a table-spoonful of water, and cook on a slow fire. When the chicken is hot through, put in a tea-cupful more water. Stew it for half-an-hour or longer, till quite tender. Take the meat off the bones, pound it well in a mortar, and rub it through a sieve. Use the gravy to moisten the meat in the mortar.

Chicken Broth, with every particle of fat or grease carefully taken off by blotting paper when hot, may be drank cold or iced, and will at times be retained when the stomach rejects everything else, especially in sea-sickness, or the sickness of pregnancy. It should be seasoned with a little salt, and taken from a glass feeder, when the patient is lying down. It is a refreshing and supporting drink even in cases of fever, and should be given quite cold or iced, *not lukewarm*.

Concentrated Fowl.—Take an old fowl, split it, and wash it thoroughly under the pump, till all traces of blood have disappeared, then put it into a covered preserve jar, add 3 pints of water, let it stew in the pan till the meat comes off the bones, and the water is reduced to a quart.

Calf's-Foot Custard.—Take one calf's foot, put it into a quart of new milk, let it simmer till reduced to a pint, beat up the yolks of 2 eggs with a little pounded sugar, mix all together, boil it for a few minutes, let it stand, and skim well. It should have the chill taken off before eating it.

In his admirable little work upon cookery for the working classes, Francatelli gives the following method of preparing "a large quantity of good soup for the poor":—"It is customary with most large families, while living in the country, to kill at least some portion of the meat consumed in their households, and, without supposing for a moment that any portion of this is ever wasted, I may be allowed to suggest that certain parts, such as sheeps' heads, plucks, shanks, and scrag-ends, might very well be spared towards making a good mess of soup for the poor. The bones left from cooked joints, first baked in a brisk oven for a quarter of an hour, and afterwards boiled in a large copper of water for six hours, would readily prepare a gelatinized foundation for the soup; the bones, when sufficiently boiled, to be taken out. And thus, supposing that a copper is already part filled with the broth made from bones (all the grease having been removed from the surface), add any meat you may have, cut up in pieces of about 4oz. weight, supplement with carrots, celery, onions, some thyme and ground allspice, well-soaked split peas, barley or rice, and, as the soup boils up, skim it well occasionally, season it moderately with salt, and after about four hours' gentle and continuous boiling the soup will be ready for distribution. It was the custom with families where I have lived as cook to allow a part of this soup, served out with the pieces of meat in it, to as many as the recipients' families numbered, and the soup was made for distribution twice every week during the winter." Another method for making economical soup is also given by Francatelli. "In households where large joints of salt beef or pork are cooked almost daily for the family, the liquor in which they have been boiled should be saved, all grease removed therefrom, put into the copper with a plentiful supply of carrots, parsnips, celery, and onions, all cut in small pieces, the whole boiled and well skimmed till the vegetables are done; the soup is then to be thickened with oatmeal, peasemeal, or Indian-corn meal, seasoned with pepper and ground allspice, and stirred continuously until it boils up again, it must then be skimmed, and the best pieces of meat selected from the stock-pot should be kept in careful reserve and be added to the soup, and allowed to boil therein for half an hour longer."

Although scarcely coming under the head of cookery for the sick, we may perhaps be allowed to make still another extract from the work of the above writer, especially as every-day experience tells us that the making of soups either by the poor themselves, or for them, by the rich, is a department of cookery which is either not understood or almost entirely neglected. The following is an excellent recipe for the poor, and we may just say that we wish the system of making such soup, and of generally economising their resources, were more generally known amongst the poor, especially in times of illness, when their cooking generally shows, it must be said, to peculiar disadvantage.

Economical Pot-Liquor Soup.—"A thrifty housewife will not require that I should tell her to save the liquor in which the beef has been boiled, I will therefore take it for granted that the next day she carefully removes the grease, which will have become set firm on the top of the broth, into her fat-pot, and keeps it to make a pie-crust, or to fry potatoes, or any remains of vegetables, onions, or fish. The liquor must be tasted, and if it is found to be too salt, some water must be added to lessen its saltness, and render it palatable. The pot containing the liquor must then be placed on the fire to boil, and when the scum rises on the surface it should be removed with a spoon. While the broth is boiling, put as many piled up table-spoonfuls of oatmeal as you have pints of liquor into a basin, mix this with cold water into a smooth liquid matter, and then stir it into the boiling soup, season with some pepper and a good pinch of allspice, and continue stirring the soup with a stick or spoon on the fire for about twenty minutes. You will then be able to serve out a plentiful and nourishing meal to a large family, at a cost of not more than the price of the oatmeal."

A good deal of attention has been directed of late to articles of food which have been brought forward under the auspices of Baron Liebig, whose great reputation as a chemist entitles anything recommended by him to our special consideration. Liebig's soup for children, though not necessarily an article of sick cookery, is yet made on scientific principles, so as to aid the digestion of important elements of food in the delicate stomach of a child, and is now getting into such universal use that we may describe its preparation for the benefit of all those who may wish either to make it or to understand its action. Take one ounce or one heaped table-spoonful of seconds flour, and mix it very slowly and carefully with 10 ounces of cold skimmed milk, until the whole is smooth, add 7½ grains of bicarbonate of potash dissolved in a teaspoonful of water (if 60 grains of the potash be dissolved in one ounce of water, one teaspoonful must be used at a time), and then heat it gently to the boiling point, and keep it boiling for five minutes; stir it well while it is being heated, add to the hot fluid one ounce (one large dessert-spoonful) of malt flour (malt ground in a coffee mill and sieved) mixed with two ounces of water, and stir it well, cover the pan and let it stand for half-an hour in water which is nearly boiling, so as to keep the fluid warm, then strain through a fine sieve, and bottle it.

The great advantage of this food for infants is that it supplies a material called *diastase* which acts as a ferment and promotes the digestion of flour in the infant's stomach. Simple flour is very little digestible by infants, and passes from the bowels, almost unaltered, in large quantities, when it is given to them as food. The above is, therefore, a convenient, and, at the same time, a proper and scientific method of giving a child two most important articles of food—milk and flour—in a condition fit for digestion. Of course the word *soup* is scarcely applicable to such a mixture. It is only desirable to give it to very young children, seeing that after the first year they can digest flour pretty well. It is unnecessary to say that for the very young, if milk can be obtained, good, and in sufficient quantity, it is better than the above, which only offers advantages to the poor, or to those who from circumstances cannot procure good milk.

COSTIVENESS.—The medical students of Paris were recently not a little surprised to receive a lecture from Professor Trousseau, one of the most distinguished medical men in the world, upon such an ordinary and commonplace subject as constipation of the bowels. The learned professor gave it as the result of his extended experience, that costiveness was a habit which could in nine cases out of ten be entirely overcome *by the practice of evacuating the bowels every day at the same hour*, and he maintained that he had cured numerous cases, simply and solely by directing attention to be paid to this particular. There can be very little doubt of the truth of this axiom, and, indeed, it has been proved in the experience of many, that they could distinctly refer the occurrence with them of a constipated condition of the bowels, to something which has interfered with the daily custom or habit. Hence it is a point of great importance to attend to in the construction of dwelling houses, that there should be no hindrance or difficulty experienced by even the most sensitive in these respects.

COTTAGE HOSPITALS, or VILLAGE HOSPITALS, as they are sometimes called, have been set in operation within the last few years in many of our populous neighbourhoods, and have met with such a measure of success as to make it probable that very many more will shortly be founded throughout the length and breadth of the country.

To appreciate the advantages intended to be conferred on the poor by their introduction, it must be reflected that many of our most populous villages and neighbourhoods, in fact, many of our thriving towns, are at a considerable distance from an hospital, rendering it perhaps dangerous for the patient to be removed so far, and even if not dangerous, very disagreeable, inasmuch as he is removed from his friends who, possibly, may not be able to afford the time or expense necessary for visiting him. Again, many have a great objection to going into a large hospital, where their imagination paints to them all the horrors so generally and so falsely believed by the vulgar to obtain with regard to many of our charitable institutions. It is well known that in many large hospitals the air is occasionally so tainted that many inmates die yearly owing to their sores or wounds taking on an unhealthy action. Hospital sore, hospital sorethroat, hospital fever, hospital gangrene, &c., &c., are expressions unfortunately too often in use, and there is reason to fear that some of the great benefits received by the public from hospitals are paid for in individual cases, by the loss of life from the unwholesome air of these places. It will, then, probably be admitted by all, that a cottage hospital, small in extent, not situated in a crowded district, but, if possible, in the country, not overworked as to its staff, and not likely to be much abused or imposed upon, presents many advantages over those conducted in the midst of our most crowded cities. Of course, it is quite necessary that hospitals should exist in the last mentioned localities, especially since they are the seat of the occurrence of severe accidents; but what we wish to contend for is that it is hard that these should be the only places where a poor man can go to, especially when he has to make the sacrifice of fresh air, and many of the conditions necessary to health.

It is incalculable how much advantage might accrue to a district, and how much good might be done by establishing such an institution as a cottage or village hospital, where the poor might receive all the benefit attending upon first rate nursing and lodging, and in short all the benefits of hospital treatment, without its disadvantages. In most places a cottage or house with sufficient accommodation for six to twelve beds, might be rented at a moderate rate. Further, if good cause were shown to any of the heads of the leading sisterhoods in the country, it is probable that nursing of the very best description would be volunteered by them, so that the required outlay would evidently not be large, and might in special cases be fabulously small. Such a plan affords facilities to all. The influential people of the district have the poor treated upon the spot, instead of having to subscribe to distant hospitals, the clergy also are enabled to visit the sick when they perhaps most require it, and the charitable and bountiful throughout the land have a better opportunity of immediately dispensing to their poor and suffering brethren some of the blessings with which they have been favoured.

These tiny hospitals have been found especially valuable in the treatment of diseases of children, and it is easy to conceive how much more agreeable to the feelings of both mother and child such a system is likely to be, than one necessitating a cruel separation, and that, too, just at a time when the tender heart of the child is yearning most towards home and its ties, while on the other hand, the anxious parent is scarcely able to rest without seeing her poor sick child. A very interesting pamphlet "on the advantages derivable to the medical profession, and the public, from the establishment of village hospitals, with general instructions concerning costs, plans, rules, &c., and an appropriate dietary," has been published by

Mr Albert Napper, of Cranley, Surrey, who claims to be the founder of the system.[*] The pamphlet will be found full of interest, and to all unprejudiced persons will very clearly demonstrate that the establishment of such institutions is likely to prove of real and lasting benefit to all classes of the community. A careful perusal of the report of the Cranley Village Hospital will show how much good can be effected at a very small outlay of money, when that is properly managed and applied.

COTYLEDON UMBILICUS, or NAVEL WORT, is the name given to a plant which grows in this country upon walls and rocky places. Various parts of the plant have been recently used in medicine.

The leaves have been applied to wounds and sores, to piles, and to inflamed parts of the skin, &c., owing to their soothing and emollient properties.

The juice has been tried in the treatment of epilepsy, but the success obtained, is, to say the least, doubtful. The flowers have been used in certain diseases of the urinary organs, connected with a tendency to the formation of stone, and it is also said that they are used with good effect in the treatment of dropsies.

DEXTRINE is a sort of artificial gum or starch, being, in fact, made from starch, with oil of vitriol. It is called dextrine, from dexter, right handed, because it refracts the rays of light more to the right than any other substance known. A solution of dextrine, of the consistency of thin treacle, has been much used in the Parisian hospitals in the treatment of fractures. The bandages are moistened in the solution by being passed through an apparatus for the purpose. When dry, the limb is found to be encased in a firm, rigid support, which is light, cleanly, and of easy application.

DIETARIES.—During recent years, the united labours of physiologists, chemists, and medical men generally, have added much to our knowledge as to the relative value of different kinds of food, and have even furnished us with pretty accurate data from which we are enabled to draw up tables of diet suitable for people in various conditions of life, in health and in disease, during repose, and during severe exertion, for the hospital patient, for the soldier, for the prisoner, for the valetudinarian, and for the athlete.

It will be seen from a reference to the article "Food," in this work, what are the general principles upon which dietaries ought to be drawn up; that is to say, what are the different classes of constituents into which our food may be subdivided; and every one knows that unless certain proportions of these constituents enter into a diet, it is to all intents and purposes imperfect, whereas the proportions can, by a proper knowledge of the subject, be so adjusted as to afford the greatest amount of nutriment and sustenance to the frame, with the least possible amount of waste.

Dr Parkes, of the Army Medical School, has published, in his work on Practical Hygiene, a table by which the amount of different aliments in any given diet may be accurately estimated, a table calculated to be very useful not only to the army medical officer but to the officers of institutions of different kinds throughout the country, and to the public generally. The same authority states that a full-grown man of average weight (140 to 150 lbs.) and height (5 feet 7 inches) requires one twentieth part of his weight in food during the 24 hours. This would amount to about 7 lbs. of food, one to one and a half pounds being solids, and the rest water.

In all calculations upon diet it must be borne in mind that the daily amount of nutriment must be increased with exercise and exposure, else the body quickly loses weight or becomes diseased, and that while a person at rest (such as a prisoner) may require 17 ounces of a properly proportioned diet, another, such as a hard working navvy, would require as much as 30 ounces, or more than double the quantity.

It is a curious reflection, that our instincts and habits, as illustrated in our daily practice, have exactly adapted themselves to the demands of science and theory on the question of proper variation of diet. Thus we eat pork with pease pudding, bacon with veal and chicken, butter with fish, rice, sago, &c., cheese with maccaroni, &c., &c., and it is well known that health cannot be maintained without proper variety in diet, and indeed that life itself cannot be preserved without a certain amount of it.

Salted meat is not equal to fresh in nutritive value, as some of the albumen and aromatic principles are lost in the process of curing, neither is it so digestible. It is desirable to add to a diet which must consist of salted meat, such substances as pease, dried fruits, butter, or oil, in order to make up for the deficient nutritive elements.

Tea and coffee, and such like articles of food, though not directly nourishing in themselves, are yet, according to all authors on dietetics, of great value, owing to their power of preventing the wear and tear of the tissues of the body, hence, in classifications, the name of paratriptics has been given to them. "All Europe," says Dr

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[*] The author of this Dictionary must, however, remark that, in 1854, he endeavoured to bring forward this subject of cottage hospitals in the journal of the British Medical Association, and at the time corresponded with various persons of influence, but could not gain the requisite support.

Letheby, in speaking of this subject, "has chosen its prevailing beverage; Spain and Italy delight in chocolate; France, Germany, Sweden, and Turkey, in coffee; Russia, Holland, and England, in tea; whilst poor Ireland makes its warm drink of the husks of the cocoa, the refuse of the chocolate mills of Italy and Spain." In all other parts of the world the same practice exists, and it has been proved that men do not feel the effects of hard work so much when tea, coffee, cocoa, chocolate, and the like are added to their diet.

Dietaries, or diet tables, must be used in many public institutions for the sake of order and convenience, also in hospitals for the sick, although it is well known that the innumerable wants of the sick in this respect can never be tabulated, and that a certain amount of extras will always be provided in any well regulated hospital. It is matter of congratulation that our knowledge as to what does or what does not constitute a sufficient diet for people under different conditions is now so much more accurate than formerly that we may hope to hear no more of outbreaks of scurvy in our jails and reformatories, or still worse, among the brave defenders of our country, whose sufferings from the gross ignorance and mismanagement of the Commissariat department, during the late Crimean campaign, can scarcely be imagined.

The following Table, referred to above, for calculating the nutritive value of different articles of food, is extracted from Professor Parkes's work on Hygiene:—

ARTICLES OF THE SOLDIER'S DIET.	In 100 Parts.				
	Water.	Albuminates, or Nitrogenous Substances.	Fats.	Carbo-hydrates, Starch and Sugar.	Salts.
Uncooked meat of the kind supplied to soldiers—beef and mutton. Bone constitutes one-fifth of the soldier's allowance,	75	15	8·4	...	1·6
Uncooked meat of *fattened cattle*,	63	14	19	...	3·7
Cooked meat, roast—no dripping being lost. Boiled assumed to be the same, ...	54	27·6	15·45	...	2·95
Bread—white wheaten—of average quality, ...	40	8	1·5	49·2	1·3
Flour, average quality, . .	14	14·6	1·2	68·6	1·6
Biscuit, ...	8	15·6	1·3	73·4	1·7
Rice, ...	10	5	·8	63·2	·5
Oatmeal, ...	12	16	6·8	63·2	3
Maize, ...	13·5	10	6·7	53	1·4
Pease (dry), ...	15	22	2	53	2·4
Potatoes, ...	74	1·5	·1	23·4	1
Carrots, ...	85	·6	·25	8·4	·7
Cabbage, ...	91	·2	·5	5·8	·7
Butter, ...	6	·3	91	...	Var.
Egg (10 per cent. must be deducted for shell from the weight of the egg), ...	73·5	13·5	11·6	...	1
Cheese, ...	36·8	33·5	26·8	...	5·4
Milk (sp. gr. 1030 and over), .	87	4	3·7	5	·6
Milk (sp. gr. 1026), . . .	90	3	2·5	3·9	·5
Sugar, ...	3	...	...	96·5	·5

The above Table is in use in the Army Medical School; and it will be seen at a glance how easily it may be made use of to calculate the different proportions of the essential elements of diet contained in any quantity of any of the substances mentioned. Every public institution has a diet table of its own; and it would be an endless task to attempt to give even a selection of the best. It will, therefore, probably be sufficient to give the diet scale of our own army, upon the construction of which great labour has been bestowed, and as affording a fair example of what is required by adult men in ordinary situations of life.

ENGLISH SOLDIERS ON HOME SERVICE.

Daily Quantity, Cost, and Nutritive Value of the Soldier's Rations.

Articles.	Quantity taken daily, in Oz. and 10th. of Oz.		Price.	To Whom Paid.
Meat, . . .	12	Oz.	4½d.	Government.
Bread, . . .	16	"		
Bread, . . .	8	"		
Potatoes, . .	16	"	3½d.	Bought in the market, or in some stations partly supplied at cost price by Government.
Other Vegetables, .	8	"		
Coffee, . . .	0·33	"		
Tea, . . .	0·16	"		
Salt, . . .	0·25	"		
Sugar, . . .	1·83	"		
Milk, . . .	3·25	"		
Total quantity, .	65·32	Oz.		
Total value, . .			8d.	

NUTRITIVE VALUE IN OUNCE AND 10THS OF OUNCE.

Articles.	Water.	Nitrogenous Substances.	Fat.	Carbo-Hydrates.	Salts.
Meat, one-fifth deducted for bone.	7·2	1·44	0·8	...	·154
Bread, ...	0·6	1·92	0·36	11·73	·312
Potatoes, ...	11·84	0·24	0·02	3·75	·020
Other Vegetables taken, (as Cabbage), ...	7·28	0·16	0·04	0·46	·050
Milk, ...	2·92	0·1	0·03	0·18	·016
Sugar, ...	0·04	...	...	1 28	·006
Salt, ...	...	...	...	...	·25
Total, ...	38 88	3·86	1·30	17·35	·808

In addition there is Coffee, 0·33 ounces.
" " Tea, 0·16 "
" " Pepper, ... "

Dr Parkes considers this diet insufficient, and recommends the addition of such articles as vinegar, bacon, butter, oil for cooking, cheese, or even a larger amount of meat. The diet in time of war, and for service on foreign stations, is of course modified.

The sick diets, or diets used in the hospitals of our army, are very numerous, doubtless from the desire to have everything arranged according to system, and to discourage the practice of ordering extra articles by the medical officers. There are no fewer than ten diets, upon any one of which the patient may be put. They are—tea, spoon, beef-tea, milk, low, chicken, half, fish, roast, entire.

The rough quantities only are given here, and the reader can easily calculate the nutritive value of any of them, for himself from the above table.

TEA DIET.

Bread,	- - - - -	8	ounces.
Tea,	- - - - - -	½	"
Sugar,	- - - - -	3	"
Milk,	- - - - - -	6	"
	Total, - -	17½	"

LOW DIET.

Meat and bone,	- - -	8	ounces.
Bread,	- - - - -	14	"
Sugar,	- - - - -	1½	"
Milk,	- - - - - -	6	"
Pudding	Rice, - - -	2	"
	Milk, - -	15	"
	Sugar, - -	1½	"
	Eggs, - -	2	"
	Total, - -	49	"

HALF DIET.

Meat,	- - - - - -	8	ounces.
Bread,	- - - - -	16	"
	Carry forward, -	24	"

Brought forward, -	24	ounces.
Potatoes, - - - -	8	"
Barley, - - - -	1½	"
Sugar, - - - -	1¾	"
Milk, - - - -	6	"
Vegetables, - - -	3	"
Butter, - - - -	1	"
Flour, - - - -	0¼	"
Total, - -	45½	"

Entire Diet.

Meat, *ex* Bone, - - -	12	ounces.
Bread, - - - -	16	"
Potatoes, - - - -	16	"
Barley, - - - -	1½	"
Sugar, - - - -	1¾	"
Milk, - - - -	6	"
Vegetables. - - -	4	"
Butter, - - - -	1	"
Flour, - - - -	¼	"
Total, - -	58½	"

Fowl Diet.—Nearly same as half diet, but with half fowl or chicken, weighing 8 oz., exclusive of bone, either to be roasted or made into soup, in lieu of 8 oz. meat.

Fish Diet.—Nearly same as half diet, but with 8 oz. of white fish in lieu of 8 oz. of meat, and with 2 oz. of butter instead of one.

Roast Diet.—Nearly the same as half diet, but with 8 oz. of mutton chop in lieu of 8 oz. of meat.

Spoon Diet.—Bread (8 oz.), tea, sugar, milk, and arrowroot.

Beef-Tea Diet.—Bread (12 oz.), tea, sugar, milk, salt, and 8 oz. of beef for beef-tea.

It may be easily understood that no system of diet tables of a practical kind could ever be framed which would include all the articles necessary or desirable for the sick.* but the above are given because they are comprehensive, and are probably superior to any of our hospital diet tables, which are too often framed by men who have not directed the special attention to these matters which is quite essential before entering upon such an undertaking. In fact, it is quite a curious study to observe the differences between the diet scales of the different hospitals of the United Kingdom, as it must follow that there is either too great parsimony and inefficiency in some, or that there is extravagance in others. True the diets of hospitals may be greatly varied by the discretionary power given to the medical officers to order whatever extras they may think well for particular cases; at the same time, any one who has devoted attention to the expenditure and management of public institutions, knows well that it is much better to adhere as closely as possible to the prescribed limits as laid down in a good diet table, in order that waste and abuse may be detected and prevented.

In connection with this subject, one word of advice to those who are under medical treatment, or their friends, as to dietetics. It is much more comfortable both for them and for the medical attendant to have the prescribed diet in black and white in all cases where it is necessary to adhere to a particular system, and where it is desirable to include certain articles, and necessary as peremptorily to exclude others. It saves a great deal of trouble and talk upon the subject, and nothing can be more simple than under the heads of the different meals to write down a list of the various articles from which the patient or his friends may make a choice.

For much useful information on the above subject the reader is referred to the work of Dr Edward Smith, which is by far the best treatise upon the regulation of food or diet either for individuals, families, or public bodies. It is called "Practical Dietary for families, schools, and the labouring classes." Dr Smith's most extended experience, as an officer of public health, joined to his undoubtedly superior capacity for undertaking such an inquiry, render the work a most valuable one, and it is not too much to say that it should be in the hands of all interested in this most important subject. Dr Smith has also carried out a system of hand bills for the poor, containing simple directions as to cooking, and economical management of all their resources. It is to be hoped that their distribution will be as general as their merits entitle them to. No one can doubt that the poor err greatly from ignorance in buying dear articles of food, and in preparing it badly, and also that, from want of education in the matter of cookery, and how to economise household means of all kinds, they and their families are often very badly fed, especially in times of commercial distress. Dr Smith endeavours to remedy this by giving plain and sensible advice to all upon the most suitable dietary for different ages, occupations, and situations in life, upon the arrangement of meals, and domestic management generally, while at the same time he furnishes them with specimens of proposed dietaries for each day.

DIPHTHERIA.—There prevails throughout this country a very general, though an entirely erroneous impression, that diphtheria is a new disease. It cannot be doubted that it had occurred at different times in France, in Scotland, and in England during the last two or three hundred years. In 1855-56 it attracted the attention both of the medical profession and of the general public in a marked degree; and, from the violence of the disease, and its pretty general distribution throughout the country, created not a little alarm. Diphtheria may be defined as epidemic sore throat, depending upon the presence of a blood poison in the system, accompanied with the exudation of a leathery-looking membrane or skin (Greek, *Diphthera*, a membrane) upon the throat, attended by great prostration of vital power, and not unfrequently followed by a remarkable form of paralysis of certain muscles, of which more will be said hereafter. It may occur more than once in the same individual—that is to say, that though, depending upon the presence of a fever poison as distinct as that of typhus or scarlet fever, yet one attack does not afford immunity from a second. The disease frequently commences with a feeling of languor and debility, sickness, headache, and not unfrequently shiverings or chilly sensations. It is very remarkable that, in a short time after the commencement of the symptoms, the strongest man may feel as weak as a child, and require to be supported in walking to his bed-room. The throat affection comes on in different ways. Some patients awake in the middle of the night, and find the throat sore for the first time. In others it is preceded by a slight feeling of stiffness in the neck, and general uneasiness in the region of the throat. The tonsils and glands of the neck become tender and inflamed; there is difficulty of breathing; and sooner or later there appears the leathery membrane spoken of above. This does not, of course, present itself fully formed all at once, but in the form of little patches, which coalesce to form one continuous skin or membrane, which certainly resembles damp white leather. It is this skin or membrane which is so eminently characteristic of diphtheria, whether it occurs in the throat, or, as it sometimes does in other parts of the body. In bad cases of the disease, the membrane increases in extent, and spreads to the surrounding parts—to the palate, uvula, gullet, and nostrils, the cheek and gums, or even —in which case it is of course extremely perilous, to the larynx and wind-pipe. In cases where there is much of this membrane about the throat or mouth, there is always a great amount of sloughing, accompanied with fetor of the breath, while the membrane is being detached and separated, leaving a raw, ulcerated surface underneath, which is often very painful during swallowing, especially if any irritating substance is used with the food which the patient takes. The pulse is generally quick and very feeble, and the skin dry and hot. The tongue is generally furred; and there is great disinclination to take food, both on account of the difficulty of swallowing, and the want of appetite. In very bad cases, occurring for the most part in those who live in dark and damp, ill-ventilated and ill-drained dwellings, the patient very soon sinks into what is called a typhoid state; mortification sets in in the affected parts; and there is not unfrequently hemorrhage, which may cause death to those already weakened by the disease. Most commonly death takes place from exhaustion. It may, however, take place suddenly, owing to the formation of clots of the diseased blood in the heart or large blood-vessels. It not unfrequently happens, too, that the patient is choked by the membrane extending down into and blocking up the air-passages; death being either gradual or sudden from this cause. The treatment of the disease must be divided into that necessary for the throat itself, and that required to support the system under the violence of the disease, assist the elimination of the morbid poison, and ensure a good recovery of the patient. Numerous substances have been applied to the throat in the shape of caustics, washes, gargles, &c. If a caustic be used, it is probably best to pencil the throat over with nitrate of silver, or with a solution of 2 scruples of this salt in an ounce of nitric ether. Chlorine water, or solution of chlorinated soda, may be used in the proportion of 1 part to 8 parts of water, either as a gargle or as a wash, to be pencilled over the throat, or borax and water may be tried, or a gargle or wash made by adding 3 drachms of tincture of the muriate of iron to a tumblerful of water.

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* See article "Cookery for the Sick"—Appendix.

It may be stated generally as an axiom, that all internal remedies of a depressing character are to be avoided in this disease. Ten to fifteen grains of chlorate of potash may be given in water to an adult every three or four hours; or, if there is a tendency to sloughing and to hemorrhage, fifteen drops of the tincture of the muriate of iron, and fifteen drops of the dilute hydrochloric acid may be added to this. Strong beef-tea and wine should be given at regular intervals, according to the patient's state; and, in cases of great depression, brandy must be given instead of wine. Where there is inability to swallow, clysters of brandy, beef-tea and quinine should be administered.

It now remains to speak of the very remarkable consequences which often attend upon an attack of diphtheria. During convalescence from this disease, the patient is sometimes affected by paralysis of certain muscles, especially those concerned in the act of swallowing; the food, both solid and liquid, passing down the nostrils, to the great inconvenience and pain of the sufferer.

Paralysis of the legs and arms may supervene, so that the patient is unable to perform the ordinary duties of life for himself, although the general health may be tolerably good in other respects. The eyesight may be affected, or the tone of the voice altered for a time. But it is fortunate that none of the above-mentioned conditions continue permanent. On the contrary, after a few weeks, they generally begin, under proper treatment, to improve steadily, and progress gradually towards a perfect cure. The citrate of strychnine and iron, in doses of from three to five grains, three times a-day, may be prescribed with advantage; while bathing, rubbing, and shampooing the limbs, may be practised, with the employment of galvanism, or, as it is now called, Faradization. A liberal diet, with a moderate allowance of sherry or pale ale, should be given; while, at the same time, if the patient is unable to take walking exercise, it will be well to substitute daily drives in an open carriage, if the weather be fine enough to admit of it.

Paralysis after diphtheria sometimes manifests itself quite suddenly. A friend of the writer's, who had apparently made an excellent recovery from the throat affection, was instantaneously seized with paralysis of one leg while walking in the street. The paralysis is not of long duration, and is almost always removed in the course of a short time.

Of course, it is not expected that any unprofessional person would attempt to carry out the treatment of so formidable and fatal a disease as diphtheria, when the aid of a medical man can be procured; but, as diphtheria now prevails in almost every quarter of the globe, and under every variety of circumstances, it is well that all should know the symptoms of the malady, and the measures most likely to be successful in subduing it.

DIPSOMANIA.—The employment of this word has been rendered necessary by the now well-known fact that there are numbers of individuals whose desire for intoxicating liquors is so strong, and their ability to resist it so feeble, that they are in a manner obliged to give way to it, or, at all events, are so little under the control of reason, that they are for the time being maniacs, in one sense of the word. It is a remarkable and at the same time a most melancholy reflection, that those persons who have for a length of time indulged a craving for intoxicating drinks, sooner or later, are apt to lose all power of control over themselves, and, in fact, so conscious are they of this, that many of them would willingly submit to any kind of restraint which would deprive them of all opportunities of indulging in a vice, the pernicious consequences of which they are too well aware of. Continuance in such a degrading vice as drunkenness cannot fail to be followed by punishment, and those who are ignorant on the subject should not be left uninformed that the disease, if we may so call it, Dipsomania, is a consequence of vicious habits unchecked, that it is one of the most dreadful punishments with which a poor human creature can be visited, so dreadful, that the sufferer is often only too anxious to put himself under voluntary restraint, making the humiliating confession that his reason—that proudest faculty of man—has lost its ascendancy over his evil passions, and that he has indeed sunk into a lower condition than the brutes that perish! It must, however, be distinctly understood that there is no such disease as dipsomania, which has not been self-acquired or *hereditarily transmitted*, of which more hereafter; that is, there is no disease of the brain known to physicians which causes this morbid craving for drink that has not itself followed as a consequence of indulgence in the evil habit. In connection with this, it may be well to remark that there is in the present day too great a readiness on the part of the public mind to attribute the commission of the most revolting crimes to insanity, and to regard a drunkard as an irresponsible being, a tendency which is as much against common sense as it is detrimental to public safety. The welfare of society demands that there should be institutions throughout the country for the voluntary or compulsory restraint of habitual drunkards, where they might be subjected to proper treatment under the care of duly qualified medical attendants. Proper treatment consists in the entire removal of stimulants, and the substitution of good nourishing food, exercise in the open air, and healthful occupation both of body and mind. Medicine is only of use in so far as to correct that derangement of the digestive organs which almost invariably is present in the debauchee. Bitter tonics, the mineral acids, quinine, iron, &c., may be given to restore the tone of the system. Aerated waters of various kinds, either alone, or with the addition of some agreeable fruit syrup, lemonade, soda water, potash water, &c., &c., may be taken as drinks at meals.

It is matter of congratulation that at the present time the absurd custom of pressing people to drink, under the idea of being hospitable, no longer exists in the homes of the more educated and refined, and that any one, even the most wanting in moral courage, may abstain entirely, without any explanation being asked or given; or if any is asked, it is quite sufficient to say that it is in accordance with medical advice.

There has just been laid, in Edinburgh, the foundation stone of an institution—"Queensberry Lodge"—for the safe accommodation and reformation of females in a respectable position of society addicted to habits of drunkenness, being the first establishment of the kind in the United Kingdom. We most heartily wish it that measure of success which will undoubtedly lead to the general distribution of similiar asylums throughout the country at large. The great want of such institutions is shown by the fact that no class of persons are so convinced of the necessity for them as the patients proposed to be admitted to them for treatment. At present there are many persons abroad in the world who have acquired this disease, and who are unable to resist the sudden craving for drink when temptation offers, in spite of all the numerous good resolutions which they may previously have formed in perfectly good faith. Now, it is to such persons that asylums of this kind would afford a retreat, and a means of cure under proper and skilful medical treatment both of body and mind, till the morbid propensity is overcome. It will be readily understood, upon a little reflection, how much misery might be spared to families, and to individuals, by the adoption of such a system, and how many an onward career to ruin might be opportunely checked, and, perhaps, when the time came, turned to better account. The experience of medical men goes to prove that even the worst cases are capable of cure, if only time can be gained, and most are of opinion also that the time of probation should be as extended as possible, owing to the extreme proclivity which such cases manifest towards a relapse into former habits when restraint is withdrawn, and temptation suddenly presents itself in the shape of old familiar scenes, associates, and customs. No doubt the great difficulty will be to say, when in any given case it will be safe to remove the patient from restraint. But the very experience upon this point afforded from the treatment of such cases in public institutions will be of the greatest value both to the medical profession and to the public at large. Meanwhile, it may be stated as a general rule, that those cases in which the habit has not been of long standing will require much less and much shorter duration of treatment, than those in which the vice has been acquired through a system of continued indulgence for many years, and in which *partial* reform has been only too surely followed by a speedy relapse.

Dr Aitken, in his recent work upon the Science and Practice of Medicine, very forcibly describes the effects of a long continued and immoderate use of alcohol in giving rise to degeneration both of body and mind. He says—"By far the most active sources of degeneracy are those direct and repeated influences upon the blood, the brain, and the nervous system, which give rise to morbid conditions; and which often place those who periodically expose themselves to the influence of toxic agents in a condition merging on, or equivalent to insanity. The effects of *chronic alcoholism*, for instance, in giving rise surely and progressively to the degeneration of the individual, are mainly demonstrable by the production of the following states, namely:—persistent loss of appetite, indigestion, nausea, occasional diarrhœa, progressive emaciation and cachexia; the appearance of pustular eruptions; the occurrence of eructations, associated with offensive breath; serious disturbance of the functions of the stomach, liver, kidneys, and heart, and the production of organic lesions in these organs, and in the structures of the blood vessels, followed by fatal *serous effusions*, *dropsy*, *hemorrhages*, *extravasations*, or *apoplexies*. Intercurrent with these morbid conditions, at variable periods, and otherwise contingently, 'fits of drunkenness,' with sexual incompetency; different forms of psychical aberration; *delirium tremens;* suicidal melancholy, and such like morbid phenomena ensue. Finally, epileptiform seizures, general paralysis, drivelling or slavering idiocy, may close the scene." The tendency of such unfortunate individuals, as described by Morel, is either to pass at length through a succession of stages marked by intellectual and physical deterioration of all kinds, into a condition known as general paralysis, or, on the other hand, to drag out a miserable existence, with a completely shattered nervous system, a burden to themselves and their friends, depraved in body and mind, and not unfrequently exhibiting the most degrading propensities. Dr Aitken states that the degenerative effects of alcoholism above detailed do not stop here, but affect the procreative functions to such a degree, that not only is the standard of the offspring lowered materially, but the extinction of race follows as an almost invariable consequence. In speaking farther on this subject, he says—"When such results are coupled with the moral and social aberration which ensue from bad example, misery and want in families and masses of men, they become ample sources of the degeneracy of the population, not only throughout the existing, but succeeding generation; and not only is the vice of alcoholic abuse transmissible, (Morel), but it also frequently leads to insanity in the offspring of the drunkard, (Whitehead, Adams); and in cases where the tendency to alcoholic excesses has a hereditary origin, the cure of the dipsomaniac is generally impossible. Morel gives the following example, in which a well marked succession of morbid phenomena became developed in different descendants of a family throughout four generations. "The great grandfather of the family was a dipsomaniac; and so complete was the transmission of the disease, that the race became totally extinct, under the well marked form of alcoholic poisoning and degeneracy. The effects entailed were — in the first generation, alcoholic excesses, immorality, depravity, brutish disposition; in the second generation, hereditary drunkenness, attacks of mania, general paralysis; in the third generation, sobriety prevailed, but hypochondriasis, lypomania, persistent ideas of persecution, homicidal tendencies were expressed; in the fourth generation, intelligence was but feeble, mania became developed at sixteen years of age, stupidity running on to idiocy, and to a condition involving extinction of the race."

Dr Gairdner, in his "Clinical Medicine," gives the result of his very extended experience in the observation and treatment of cases of this nature. He mentions the case of one man, a clerk, who had been admitted upwards of twenty times to the hospital, and who was not likely to be long in seeking readmission. After giving a very full and interesting description of what may be regarded as a typical case of dipsomania, the Professor says—"There is in all this evidence of long continued and probably irreclaimable bad habits founded on a weakening of the moral sense, amounting to a kind of paralysis of it;" and, again, "It is a case not only of degradation, but of positive *degeneration* of the moral instinct; the degradation is probably both physical and moral by this time; the machinery of mind has suffered as well as the mind itself. This man, I believe, literally cannot do good at present; you can no more expect good conduct and high principle from such an organization than you can from that of a gorilla. A long course of reformatory discipline might possibly, indeed, even now, do something to reverse the habits of forty years; but at the present moment of time this man is in a state of *moral paralysis*—powerless for good, and a prey to evil, in virtue of his physical and moral organization—his craving appetites and deeply imprinted bad habits." Seeing that there are many such, and many worse cases, it remains an important question, What is to be done with them, how they are to be classified, and whether or not the medical man should be allowed more support from the public, and from the law, in dealing with them? And this manifestly becomes a question likely to excite much greater interest in the eyes of the public, when it is considered that all the cases are not met with in hospital patients only, but that unfortunately there are not a few, it may be, holding offices of trust and responsibility, heirs to large fortunes, or possessed of large estates.

DISINFECTANTS.—Many new agents have come into general use lately, as disinfectants, owing to the increased amount of attention which has very properly been paid to the subject.

It must be patent to the observation of every one, that it is desirable to have a disinfectant which can be of general use; one adapted for the private house as well as for the public institution. Nothing can be more important, for instance, in the case of an outbreak of fever or some other contagious disorder in a private family; for it is not always possible, nor even always desirable that all the members of the family should remove themselves from the source of the contagion, and abandon their relations to a trained nurse. By all means, then, let them take every precaution. Independently, too, of their real value, disinfectants, when used, give confidence to those who are needlessly afraid of infectious disease, and enable them better to perform their duties. Besides being valuable as disinfectants, many of the following articles are exceedingly useful as deodorizing agents, even in cases when there may be no danger of directly infectious or contagious effect; and it should not be forgotten that all disagreeable odours and emanations from the sick, are more or less hurtful in their effects, and ought to be guarded against as much as possible by a diligent use of the means which are now so numerous and so simple of application as to be placed within the reach of all.

Amongst the most important uses also, of disinfectants, may be mentioned the advantage to be derived by those who are engaged in working amongst materials which leave an offensive smell upon the hands. This is at once removed by washing the hands with the prescribed fluids, in a proper state of dilution. Perhaps one of the most suitable for this purpose is Condy's patent disinfecting fluid, which is a solution of permanganate of potash, of a beautiful purple colour. It has not the objection which many have, of being disagreeable when used with a lather of soap. Sir Wm Burnett's fluid, which is a solution of chloride of zinc, is an admirable disinfectant, and has the advantage of being cheap. For the sick room, rags may be dipped in it (properly diluted) and suspended on strings, at various parts of the room. Both the above named fluids may also be used in the night chairs, water-closets, &c. It is often desirable, in cases where the noxious vapours are very penetrating and persistent, (as in the case of a patient dying from mortification of the lung, which is always accompanied by the most intolerable odour) to have recourse to several deodorizing agents at the same time. While the above are freely used, plates containing charcoal are to be distributed over the room; a few grains of iodine may be put on a plate and vapourized by gently heating the under surface of the plate with a lighted candle; or some chloride of lime may be placed in a bowl, and a few drops of sulphuric acid, or oil of vitriol cautiously added to it from time to time, which will cause it to give off fumes of chlorine gas, than which there is probably no more powerful disinfectant. Sir Wm. Burnett's fluid also acts by evolving chlorine, Condy's by giving off oxygen, which it contains in great quantity, and charcoal, by the absorption of noxious materials.

Creasote and the "Liquor Carbonis detergens," or concentrated solution of the active principles of coal tar, are also useful disinfectants, though probably inferior to those above named. Solutions of chlorinated lime or chlorinated soda, (Labarraque's fluid) are also among the very best disinfectants and deodorizers. Many others might be mentioned, as well as several powerful methods of fumigating, but they are scarcely suitable for non-professional hands. Leydoyen's fluid is a solution of nitrate of lead, but is not much used in this country. It is made by dissolving 1 lb. of litharge in about 7 oz. of strong nitric acid and 2 gallons of water: a little of the water is mixed with the litharge; the acid is gradually added, and then the rest of the water. This quantity will deodorize a moderate-sized cess-pool.

Heat is often used as a means of disinfecting clothing, and should be employed in the case of clothes used by patients suffering from scarlet fever, typhus, &c. Exposure to a heat of 212° Fahrenheit, has been found quite effectual, and it is probable that a long exposure to a moderate heat would be sufficient.

When no others can be had, dried earth, lime or soot, may be used as disinfectants, and are quite effectual in removing the unpleasant and unwholesome vapours of cesspools, &c.

Carbolic acid is one of the most recent and effectual—see article, Carbolic acid, Appendix. Carbolates of lime and magnesia are also used, but their effects have not yet been much tested by experience.

Permanganate of soda is stated by Hofmann to destroy the odour of tobacco instantly when taken into the mouth.

In addition to the means recommended above for using iodine and chlorine vapours as disinfectants, nitrous acid, and sulphurous acid gas may be employed. The former is probably the most powerful of all known gaseous disinfectants, and may be evolved simply enough when required, by putting a piece of copper in a jar with nitric acid and a little water. As, however, the gas is very irritating to the lungs, the rooms should be cleared before using, or it must be produced very sparingly, which can be effected by diluting the nitric acid. Sulphurous acid gas is evolved simply by burning sulphur. Vinegar is not of much, if any use as a disinfectant. It seems almost unnecessary to say that no kind of disinfectants or no combination of them should ever be allowed to take the place of free ventilation. As regards their application to special diseases, Dr Parkes[*] seems to place most reliance upon the fumes of nitrous acid, continuously diffused, in cholera, in typhus fever, and in yellow fever, and upon fumigations of chlorine to destroy the emanations from the stools in cases of dysentery.

DRAINAGE.—Among the many improvements in the construction and management of drains, may be mentioned, their superior ventilation and purification, from the introduction of ventilating pipes, and from the use of trays of charcoal (as recommended by Mr Stenhouse), for the absorption of fœtid gases. These means should always be used in the construction of drains.

If there be any suspicion of disease, such as fever of a low type, arising, as it often does, from the choking up of drains, and the consequent escape of foul gas, the drains should be most carefully examined in order that the cause may be ascertained and rectified. The first point to look to is the construction of the drain, for if this is faulty, if the lines and gradients are bad, nothing is more probable than that the drain will be stopped. Again, large, flat, and wide sewers are very liable to get choked up, and, of course, if there is any fracture allowing the noxious matter to escape into neighbouring parts, or, if the sewers are made of too porous material, allowing the fluids to percolate through, while the solids accumulate and obstruct the passage, all the bad effects of stoppage will be perceived. If the mouth of sewers be not duly protected from accumulation of water after heavy rain, or from the influence of tides, or even from high winds, a reflux of offensive materials must be expected; or if, on the other hand, the amount of water supply be not sufficient to flush the drain, or carry off the impurities, these will be sure to block up the passage.

The report of the Commission appointed to inquire into the best method of distributing the sewage of towns, shows that nothing is more to be deprecated than the opening of drains and sewers into a river, the water of which is used for drinking, and it is to be hoped that this will no longer be permitted by the law. The natural question is, where is the sewage to be disposed of? It ought, if possible, to be conveyed by the drain into the sea, *beyond low water mark* But what is to be done with the sewage of inland towns? In answer to this, it may be at once stated that scientific men have not yet decided what is the best and most profitable method of disposing of it, the great difficulty being that it is so diluted with water, as to render its collection and application to the soil very troublesome and unremunerative. The day, however, will assuredly come when all sewage will be utilized, and this is the more probable since there does not seem to be much fear of bad consequences, such as the production of disease, owing to the deodorant and disinfectant properties of most soils. The subject is one of great difficulty, because all attempts to improve the quality of the sewage, by diminishing the quantity of water to the drains is immediately followed by undesirable results, seeing that the drains are dependent upon a large supply of water for their adequate purification. Some idea of the amount of dilution of the sewage may be obtained, when it is known that upwards of 400,000,000 gallons of water are calculated to pass through the sewers of London on a daily average.

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[*] Practical Hygiene.

Main drains should be of such a size as to allow a man to creep through. The Parisian main sewers are of large size, with footways on each side, above the level of the stream. A machine can be passed along to clean out the sewer at once. The house drains open into the main sewers, and are plated and numbered according to the houses, the inhabitants of which pay 3 francs annually to have their drain cleaned.

The reader is referred to the article, "Enteric or typhoid fever," in the Appendix, for an account of the disastrous effects likely to accrue from bad drainage. In his address to the Metropolitan Counties branch of the British Medical Association, Dr Sieveking says:—

"Look at the great sewage question. Is that not even now threatening to overwhelm us? and have we not, in the triple sewer of this vast metropolis, agreed to throw away, as a temporary expedient, millions of money, for the purpose of showing how imperfect are all our endeavours to read the unfailing and unerring laws of a beneficent Creator? Are we not, at this moment, with all our advances in hygiene and engineering skill, temporising with a monstrous difficulty, instead of dealing with it manfully and radically? If we persevere in our present course, all the rivers of this country will soon be poisoned; and we shall, Tantalus-like, bring the cup to our lips, only to cast it aside because it teems with pollution. Where will this end? Not by multiplying our sewers; for they must at least terminate in our rivers, as they are flushed by their waters. We must not use up all our water, first to wash out our impurities, and then again cast the impurities into the water. But we must contrive some method by which, from each household, the fructifying liquids and solids may be separately conveyed direct to our meadows and our fields, there to reproduce in succeeding rotation the crops that nourish and support and strengthen our frames. This, then, is a great question for us to take up and to solve—a question involving the happiness and the health of the present, and yet more of countless generations to come."

Dr Gairdner, in his work on Public Health, while discussing the sewage question, says, "Certain it is that an improved art of agriculture, or what is called 'high farming,' founded at once on a wide basis of experience, and on the highest generalization of modern chemistry, is teaching us more and more every day, that what is poison to man is meat for vegetables; teaching us through the prodigious results obtained by a lavish use of manures, that the waste of our cities is capable of being made the source of almost indefinite production, and that the debris of our bodies, by passing in their appointed course around the cycle of organic nature, may not only be rendered harmless but highly profitable to us; may be so altered and transformed as to become, instead of a poison and a nuisance, the very material of our reconstruction. Many of you must remember the extremely neat and humorous expression given by Lord Palmerston to this high philosophical truth, when he said, (some years ago) that "dirt is nothing but matter in a wrong place;" in other words, that what we call impurity, the waste of our bodies, and our bodies themselves in the end, are simply what is required to fertilize the fields, and so to come back to us again in the shape of the food of nations—cereal grains, and green crops, luxuriant herbage, and sheep and cattle reared and fattened upon these. Beyond all doubt, therefore, this question of drainage and the removal of impurities is much more then a mere sanitary question. It is not at all doubtful that owing to the imperfection of our means for ridding ourselves of our impurities, and securing the proper application of them to the soil, we are casting away great supplies of our own food into the sea, and into the rivers. It is an enormous waste; an extravagance which it is almost frightful to think about, in connection with the gradual exhaustion of the soil, with which Liebig threatens us in some parts of Europe. It is pitiful, surely, for a great nation to be dependent upon the excrements of tropical birds, brought in ship loads from Peru, and retailed at £12 a ton, while in her helpless ignorance of the ways and means of living, she is devoting millions upon millions of tons of the richest and most fertilizing manures to the construction of seaweed in the Atlantic Ocean! But we are a long way yet from such a consummation as we may reasonably have in view, when everything in our refuse at all available for the agriculturist will be applied to its proper use in the cultivation of the ground. We must, in the meantime, keep before us an object considerably short of that. We must, in the first instance, as sanitary reformers, try to displace and effectually remove from our neighbourhood, the accumulations which day by day threaten our very existence; we must rid ourselves, as best we may, of a great and pressing danger; and I fear we must do this for a while without regard to the ultimate settlement of the agricultural question, 'How far can what we throw away from us be profitably utilized?' It is satisfactory, however, to know that a great deal of attention has been directed to this question, which we may safely leave in the hands of the enlightened, energetic men who have taken it up, both thoretically and practically. I have indeed, no doubt at all in my own mind, that the time will come when much of the refuse of our towns will be consumed by the agriculturist; but seeing that it is a question so much of detail, in which it is so difficult to arrive at conclusions generally applicable, I think we must leave it at present to the agriculturist, and not attempt to interfere here between Mr Mechi and his antagonists."

It would be a wise precaution if in every large establishment, and even in every house, especially in the country, an accurate plan of all the drains and cesspools were kept, with all the traps, sinks, &c., carefully marked, so that when it is necessary to have repairs executed, they may be done with as little trouble and expense as possible. A more exact plan still is to have the course of the drains indicated by lines of brick or stone of peculiar colour, with markings also to indicate cesspools, &c.

Either of the above plans saves an immense amount of trouble when a drain requires to be opened, as will be testified to by those who have witnessed the difficulty, in many country neighbourhoods, of getting workmen who could find the drain required to be opened. Many days' unnecessary work in digging about at random would be saved.

DROP WRIST, or wrist drop, as it is often called, is an affection freqently accompanying lead poisoning, and depending upon paralysis of the muscles which extend the hand, so that it falls, or drops. Galvanism of the muscles twice a day, besides kneading, shampooing, and rubbing them with flower of sulphur, are useful as local remedies. Hot baths, with sulphur, or with the addition of a handful of sulphuret of potassium may be given every other day. These means, it is scarcely necessary to add, will be of little avail without the administration of medicines to aid in the elimination of lead from the system, and this should only be followed out under medical advice. The affection is common among painters, and all tradesmen who use lead (see article—Lead) such as plumbers, workers in glass and putty powder, makers of brass taps, which contain lead, and many others, especially the manufacturers of sugar of lead, white and red lead, &c.

DROWNED—(TREATMENT OF THE APPARENTLY)—It may first of all be laid down as a general rule, never to be forgotten, that however discouraging apparent want of success may be, the attempt to restore a drowned person to animation should be continuously persevered with, as cases are on record where a happy result was obtained long after many of the bystanders had given up the case as hopeless. When a body has been recovered from the water, it is well that those standing around should each provide a garment, so that the unfortunate person may at once be as much protected from cold as is possible, under the circumstances. In addition to the measures already recommended under the article Drowning, artificial respiration should at once be commenced, according to what is now generally known as "Marshall Hall's ready method;" that is to say, the patient should be laid upon a table upon his face, the forehead resting upon a book or some such thing, and every three or four seconds the body should be turned quite on one side, and then returned to the former position. Of course, all the while that this is being done, preparations should also be made for the other means necessary, such as constant chafing of the hands and feet, the application of warm blankets, hot bricks, or bags of salt, &c., &c., when these can be obtained.

The Royal National Life-boat Institution has issued the following directions for restoring the apparently drowned. The leading principles of the system, and the practical instructions, are founded on those of the late Dr Marshall Hall, combined with those of Dr H. R. Silvester, and are the result of extensive inquiries which were made by the Institution in 1863-4 amongst medical men, medical bodies, and coroners, throughout the United Kingdom.

I.

Send immediately for medical assistance, blankets, and dry clothing, but proceed to treat the patient instantly on the spot, in the open air, with the face downwards, whether on shore or afloat; exposing the face, neck, and chest to the wind, except in severe weather, and removing all tight clothing from the neck and chest, especially the braces.

The points to be aimed at are—first and immediately, the restoration of breathing; and secondly, after breathing is restored, the promotion of warmth and circulation.

The efforts to restore breathing must be commenced immediately and energetically, and persevered in for one or two hours, or until a medical man has pronounced that life is extinct. Efforts to promote warmth and circulation, beyond removing the wet clothes and drying the skin, must not be made until the first appearance of natural breathing. For if circulation of the blood be induced before breathing has recommenced, the restoration to life will be endangered.

II.—TO RESTORE BREATHING.

To Clear the Throat.—Place the patient on the floor or ground with the face downwards, and one of the arms under the forehead, in which position all fluids will more readily escape by the mouth, and the tongue itself will fall forward, leaving the entrance into the windpipe free. Assist this operation by wiping and cleansing the mouth.

If satisfactory breathing commences, use the treatment described below to promote warmth. If there be only slight breathing, or no breathing, or if the breathing fail, then—

To Excite Breathing—Turn the patient well and instantly on the side, supporting the head, and—

Excite the nostrils with snuff, hartshorn, and smelling salts, or tickle the throat with a feather, &c., if they are at hand. Rub the chest and face warm, and dash cold water, or cold and hot water alternately, on them.

If there be no success, lose not a moment, but instantly—

To Imitate Breathing—Replace the patient on the face, raising and supporting the chest well on a folded coat or other article of dress.

Turn the body very gently on the side and a little beyond, and then briskly on the face, back again; repeating these measures cautiously, efficiently, and perseveringly, about fifteen times in the minute, or once every four or five seconds, occasionally varying the side.

[*By placing the patient on the chest, the weight of the body forces the air out; when turned on the side, this pressure is removed, and air enters the chest.*]

On each occasion that the body is replaced on the face make uniform but efficient pressure, with brisk movement, on the back between and below the shoulder-blades or bones on each side, removing the pressure immediately before turning the body on the side. During the whole of the operations let one person attend solely to the movements of the head, and of the arm placed under it.

[*The first measure increases the expiration, the second commences inspiration.*]

III.

Should these efforts not prove successful in the course of from two to five minutes, proceed to imitate breathing by Dr Silvester's method, as follows:—

Place the patient on his back on a flat surface, inclined a little upwards from the feet, raise and support the head and shoulders on a small firm cushion or folded article of dress placed under the shoulder-blades.

Draw forward the patient's tongue, and keep it projecting beyond the lips; an elastic band over the tongue and under the chin will answer this purpose, or a piece of string or tape may be tied round them, or by raising the lower jaw the teeth may be made to retain the tongue in that position. Remove all tight clothing from about the neck and chest, especially the braces.

To IMITATE THE MOVEMENTS OF BREATHING—Standing at the patient's head, grasp the arms just above the elbows, and draw the arms gently and steadily upwards above the head, and keep them stretched upwards for two seconds [*by this means air is drawn into the lungs*]. Then turn down the patient's arms, and press them gently and firmly for two seconds against the sides of the chest [*by this means air is pressed out of the lungs*].

Repeat these measures alternately, deliberately, and perseveringly, about fifteen times in a minute, until a spontaneous effort to respire is perceived, immediately upon which cease to imitate the movements of breathing, and proceed to induce circulation and warmth.

IV.—TREATMENT AFTER NATURAL BREATHING HAS BEEN RESTORED.

To PROMOTE WARMTH AND CIRCULATION—Commence rubbing the limbs upwards, with firm grasping pressure and energy, using handkerchiefs, flannels, etc. [*by this measure the blood is assisted along the veins towards the heart*].

The friction must be continued under the blanket or over the dry clothing.

Promote the warmth of the body by the application of hot flannels, bottles, or bladders of hot water, heated bricks, etc., to the pit of the stomach, the arm-pits, between the thighs, and to the soles of the feet.

If the patient has been carried to a house after respiration has been restored, be careful to let the air play freely about the room.

On the restoration of life a teaspoonful of warm water should be given; and then, if the power of swallowing have returned, small quantities of wine, warm brandy-and-water, or coffee, should be administered. The patient should be kept in bed, and a disposition to sleep encouraged.

General Observations. — The above treatment should be persevered in for some hours, as it is an erroneous opinion that persons are irrecoverable because life does not soon make its appearance, persons having been restored after persevering for many hours.

Appearances which generally accompany Death.—Breathing and the heart's action cease entirely; the eyelids are generally half-closed; the pupils dilated; the jaws clenched; the fingers semi-contracted; the tongue approaches to the under edges of the lips, and these, as well as the nostrils, are covered with a frothy mucus. Coldness and pallor of surface increase.

Cautions.—Prevent unnecessary crowding of persons round the body, especially if in an apartment.

Avoid rough usage, and do not allow the body to remain on the back unless the tongue is secured.

Under no circumstances hold the body up by the feet.

On no account place the body in a warm bath, unless under medical direction, and even then it should only be employed as a momentary excitant.

DUGONG OIL.—For a very interesting account of this oil, the reader is referred to a pamphlet on the subject, by Dr M'Gregor Croft, of London, to whom we are indebted for its introduction to this country.

Dr Croft claims for it a superiority over cod liver oil, on account of its being not disagreeable to the taste. It is true that the oil has this advantage, being almost like mutton fat to the taste; but it is not proved as yet that it possesses all the advantages both as a nutrient and as a medicinal agent, of cod liver oil. The high price of the oil has prevented medical men from making the extensive trial that would be necessary to determine this question, although, owing to the praiseworthy efforts of Dr Croft, the oil has been presented at as low a rate as possible. To medical men holding appointments in hospitals, who are in the best circumstances to try its effects, Dr Croft has on many occasions provided a small quantity, at his own expense. The results, so far, have been most satisfactory, and one thing is certain, at all events, that the patients do not complain of the taste of the oil. The writer has made a trial of it, and was pleased to note a decided improvement in the patient during its use. The case was one of consumption, and the patient gained in weight, and did not suffer to the same degree as formerly from perspirations at night. It seemed to agree well with the stomach, and was said not to be at all disagreeable to the taste, even in the first trial.

EFFERVESCENCE.—The use of effervescing forms of medicine—see article "*Effervescence*"—has of late years become much more prevalent than formerly, and, as a consequence, we find many improvements introduced, by which various drugs are rendered not only more palatable if taken in the above state, but also more likely to sit easily upon the stomach. Thus, we have effervescing magnesia, iron, quinine, lithia, bismuth, &c., &c.; also, the familiar lemon kali. Until lately, it was a necessity of effervescing preparations that the acid, whatever it might be, should be kept separate from the carbonated alkali until the moment the effervescing action was required, the water of crystallization contained in salts, such as carbonate of soda, potash, &c., and also in tartaric or citric acid, being sufficient, though perhaps not apparent, moisture to cause slow decomposition and destruction of the effervescing quality. As in the well known "lemon kali," this was overcome by depriving both alkali and acid, before mixing, of their water of crystallization, by heat; but even then moisture sufficient was attracted from the atmosphere to decompose the salts in time, owing to their being in fine powder. The process of "granulating," not long introduced, and now applied to many medicines, quite overcomes the defect, and, consequently, we have such medicines as the granulated effervescing "citrate of magnesia," and others, which are found so convenient and so comparatively agreeable. —See *Magnesia*, *Citrate of*—Appendix; also, article "*Effervescence*."

ENTERIC, TYPHOID, OR GASTRIC FEVER.—A good deal of confusion exists in the public mind as to medical matters generally, and in nothing more than as regards fever. "What sort of fever is it?" is a question that is frequently asked, and as often unsatisfactorily answered. "The doctor said it was typhoid fever." "Oh, no, he said it was only gastric fever." The three names given above apply to one and the same disease, than which there is none more dangerous and subtle. It may run its course mildly, without the development of any bad symptoms whatsoever, beyond the ordinary manifestations of a slight feverish attack; it may be attended by the gravest symptoms, so as to threaten life, at any time during its course; or, lastly, it may appear to be running on to a favourable termination, when, suddenly, a relapse declares itself, and the patient is speedily again in the greatest danger. Severe cases of this disease were formerly confounded with typhus fever; while mild cases were generally called gastric fever. Still later, its striking analogy to typhus, led some medical men to give it the name of *typhoid* fever, but it was reserved for Dr Jenner, the present Professor of Medicine in University College, London, to prove thoroughly the non-identity of the two diseases, and to give the latter the name of Enteric fever. It is a circumstance of singular and melancholy interest, that it was this very disease which carried off our great and good Prince Albert, in the prime of life, and it is matter of congratulation to the nation, that he was attended on his death-bed by the very man who has done more than any other in this country, to make his medical brethren acquainted with this disease, which formed the subject of his most careful investigation during an extended experience at the London Fever Hospital. All observation goes to prove that Enteric fever owes its origin to bad drainage, foul smells, privies, etc. ; that it is not so infectious as typhus fever, and that it is communicated most readily to persons, such as nurses who have to inhale the emanations from the secretions of the patient affected. It is attended in many cases, by ulceration of the bowels, and perforation,—(see article under that head)—or fatal hemorrhage may take place in consequence of the ulcerative process. There is often diarrhœa, the stools being generally of a pea-soup character, the fever poison being eliminated, it is believed, in this way from the system, hence it is not well to check the purging, unless it is excessive. The bowels should be diligently fomented if there is any pain. Further treatment beyond that generally recommended in ordinary fever, must be left to a medical man.

As in all other fevers, good nursing is here of the highest consequence. The patient is often very delirious, and requires constant watching on this account. Again, the irritation of the bowels and diarrhœa are very troublesome, inasmuch as many patients who have never been accustomed to it, (in their half-delirious state perhaps) cannot be prevailed upon to make use of the bed-pan, and yet nothing is more dangerous when there is great prostration than to allow them to get up to the water closet or to the night-chair; indeed, in some cases with hemorrhage from the bowels, death has taken place suddenly, from this precaution having been overlooked.

If there is much thirst, a pleasant drink, and one likely to suit the peculiarities of the fever, may be given, by mixing equal parts of milk and lime water, either simple, or still better as the effervescing lime, or as it is called, "Carrara water." In the absence of a medical man, when there is severe hemorrhage from the bowels (this sometimes occurs to such an extent—several pints—as immediately to threaten life) gallic acid with opium, or acetate of lead with opium may be given, or if these remedies are not at hand, at all events, cold or iced water should be applied over the abdomen, and above all, the patient should be made to continue in the recumbent posture. Should great faintness ensue, of course brandy must be given freely, and indeed, it is often necessary in this disease to adopt treatment of a highly stimulating and supporting nature.

From what has been already said, it will be believed that more than ordinary care is required in the nursing and general treatment of cases of this disease, and at no time more than during convalescence. It happens, sometimes, that the diarrhœa stops suddenly, and is succeeded by constipation. Now, it is well to know that by far the most efficient, and indeed, almost the only safe remedy to be used for this state of things is castor oil, *given in small dose.* An ordinary dose of some more irritating and less bland purgative, often causes the purging to return with violence.—See *Castor Oil.*

It may be asked, Is it possible for a non-professional person to distinguish between this enteric, or typhoid fever and true typhus? In many cases it would certainly be quite impossible, yet it may be well to give just a slight sketch of what are now known to be the well-established points of difference between them, remembering that in many respects they are so much alike, that up till quite recently, they were regarded by all, and even now, are thought by some of the old school. to be one and the same disease. First of all, the eruption or rash of the two fevers, when well developed, is quite distinctive. The rash of the true typhus is called a measly or mulberry rash. It is not raised or pimply so as to be felt by the finger; but when well marked, it is very profuse, and may cover the patient even to the finger and toe-nails. The patient has a dusky colour of the skin, and a peculiar mottled appearance all over. In enteric or typhoid, the eruption is as different as possible. It consists generally of only a few, (sometimes there are many) scattered rose-coloured spots, which can be felt by the finger, as well as seen by the eye, and although they sometimes appear on the arms and legs in small numbers, yet they are generally confined to the chest and abdomen. They come out, too, in successive crops, that is to say, one set fades and dies, and another fresh set succeeds it, whereas the eruption of typhus comes out once for all, and when it fades, does not return, nor does any part of it fade to reappear again for a time. The typhus rash comes out between the fifth and eighth days of the fever, and the enteric between the seventh and fourteenth days. In enteric fever, the bowels are generally more or less affected, and this is shown by the occurrence of diarrhœa, and in severe cases hemorrhage from the bowels. Now in typhus, diarrhœa seldom occurs, and hemorrhage from the bowels may be said never to occur, unless it may be in some rare, exceptional, malignant forms of the disease.

Typhus not unfrequently attacks old people, and it may be said in passing, that it is a very fatal disease to old people, *if they have been of intemperate habits*, whereas typhoid generally occurs in youth, and is very rare after the age of forty. Nothing is commoner than to have a relapse in enteric fever, if the patient is imprudent, or is badly treated, but in typhus, true relapses are unknown. Typhus is popularly known as the fourteen days' fever, from the well-known fact that the disease is at its height upon the fourteenth day, and that we may then expect a change for better or worse. This is not to be looked for in typhoid till the twenty-first day, and hence this disease is often now called the "twenty-one day fever." Dr Jenner proved the non-identity of the two diseases, mainly from the fact that, after death, there is found ulceration of the bowels in typhoid, while these organs are not so affected in typhus.

As medical science advances, it may be that we shall discover a method of treatment for these two diseases, which will be successful in destroying or eliminating the poisons, upon the presence of which, in the system, they must each depend. At present, however, the treatment of both is very much the same in a general way, with the exception that in enteric, great attention requires to be paid to the state of the bowels, the glands upon the surface of which are evidently the organs by which the poison is discharged from the system. These glands are extremely liable to ulceration, during this fever, and thus constitute the prime danger of the disease.

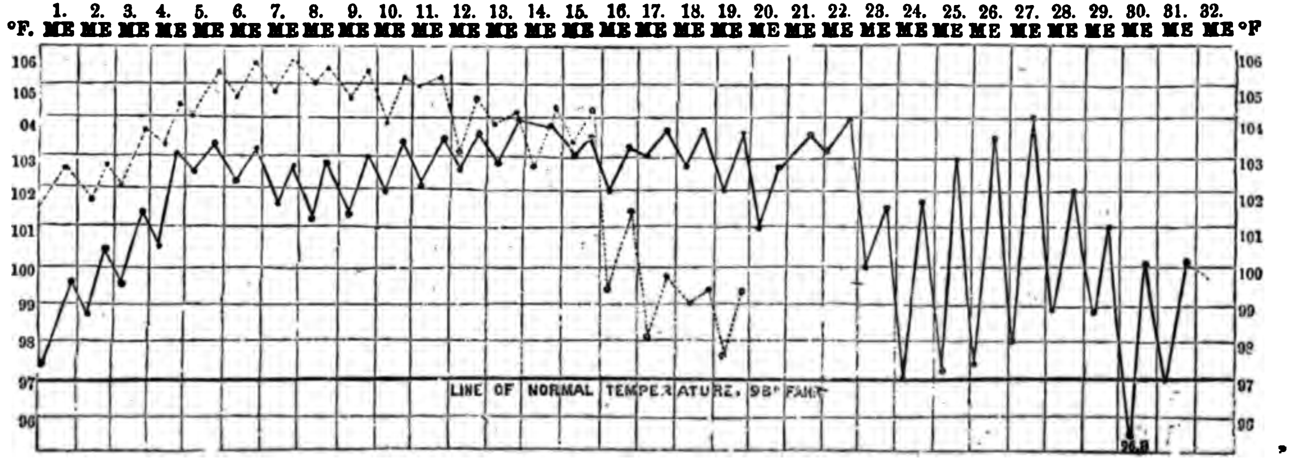
Enteric fever is said to be most common during autumn, and at this time may attack whole villages or parts of towns where the drainage is bad, or where the drinking water is contaminated with sewage, which has made its way into the well. It might appropriately be called night-soil fever, sewer, or sewage, or cesspool fever. It is believed that if the drains, &c., in our agricultural villages were properly managed, the disease would be almost if not altogether unknown in them. An important point in the domestic management or nursing of cases of this disease, is to avoid the occurrence of bedsores, which are often so distressing and dangerous, and which, in all cases, greatly retard convalescence, if they do not ultimately cause the patient to sink from exhaustion. They can be quite well avoided by proper attention to the state of the patient's back, in the general way recommended for bedsores, and it will be necessary, when the diarrhœa is very troublesome, and the patient in a state of unconsciousness perhaps, is passing everything under him, to sponge the body frequently, and to have abundance of draw-sheets, in order that impurities may be at once removed. At the risk of being thought tiresome, we repeat that the greatest care is necessary during convalescence from this disease, because the bowels, let it be remembered, have been ulcerated, probably at several points, and are gradually healing, so that the least undue exertion on the part of the patient, or the least distension or irritation of the bowels, by improper food, may cause the cicatrizing ulcers to give way, and fatal hemorrhage, or still more likely, perforation of the bowel may be the result.

This disease occurs in the lower animals as well as in man. Dr Budd states that it has destroyed from ten to fifteen thousand pigs, in the south-west of England, during the last eighteen months.

On the recent outbreak of the rinderpest in this country, it was thought not improbable that the disease was of the nature of typhus, or still more of typhoid or enteric fever. At our principal schools of veterinary medicine throughout this country, and also in several of the continental institutions, very careful experiments and *post mortem* dissections were carried out with a view to determine whether this conjecture was right or not. Most of our observers are now quite agreed that the rinderpest depends upon a specific poison, the nature of which has not yet been determined, although, from the fact that the disease can undoubtedly be propagated by the *excreta* from the bowels, there seems reason to believe that it may present some analogy to the poison of enteric fever. Many thousands of letters have been written to the papers lately on this subject.

RANGE OF TEMPERATURE DURING TYPHOID FEVER.

TYPICAL RANGES OF TEMPERATURE IN CASES OF TYPHUS AND TYPHOID FEVER CONTRASTED WITH EACH OTHER THROUGHOUT THEIR COURSE, FROM THE BEGINNING TO THE END OF THE DISEASE. The Records indicate Morning (M.) and Evening (E.) observations. The *dotted lines* indicate the *Typhus* range; the *continuous dark lines* indicate the range in *Typhoid* (WUNDERLICH and TRAUBE).



N.B.—The above table may appear unsuitable for the non-professional reader; still the subject of the range of the temperature of the body in different diseases is at present engaging so much of the attention of medical men, that we need offer no apology for its introduction.

FARINACEOUS FOOD—Articles of this kind are now so numerous, and appear every day with such rapidity, that a bare enumeration, even, would be impossible. One of the most celebrated and best known, is "Liebig's food," which contains all the elements of a nutritious food for infants or for invalids, when mixed and taken according to directions.

Brown & Polson's patent corn flour, prepared from the maize or Indian corn, forms an excellent and firm jelly. It may also be used boiled with milk as a diet for children, and it is a useful article in the cookery of the sick room, for thickening beef-tea, soups, &c.

Another superior corn flour is that known as Maizena, which received a prize medal, and was favourably spoken of by the judges at the International Exhibition. Semola, Pearl Semoule, Cerealina, Embden Groats, Patent groats, and Patent foods of all kinds have their advocates, and it must be remembered that one will sometimes agree with some children, which will cause purging, griping, and acidity, with others, so that we are often forced to try several, before we find out which agrees best with the delicate stomach of an infant. Sago, arrowroot, and tapioca are familiar to every one, and may be looked upon as the types of a large class of dried farinaceous foods which are imported into this country, but their use has been in some measure, at all events, supplanted by several of the preparations above noticed. All these kinds of food consist more or less entirely of starch; they have very little, if any flavour of their own, requiring to be seasoned by condiments, and have a very low nutritive value, unless they are cooked with milk. They absorb a considerable quantity of water. By this means they increase greatly in bulk, and may be used either as puddings and jellies, or as drinks resembling gruel.

Dr Edward Smith, in his Practical Dietary, highly recommends maize as a cheap farinaceous food for the poor. The great objection to its use is its rough taste, so that it is never a favourite article of diet with those who have been accustomed to wheaten flour. Since the potato famine in Ireland, it has been of the greatest service to the poor of that country. Dr Smith says:—"When the 'col' or head of maize is yet young and the grain soft, it is commonly gathered whole and boiled in milk, &c., a delicious food; but when ripe, the grain must be ground before it is cooked. In the Western parts of America, the grain is freshly ground in a handmill and mixed with water and a little salt, and sometimes a little soda is added; and when paste is made it is spread into a little cake, about one inch in thickness, and baked before or over the fire. When milk and eggs are allowable, they may be added, with great advantage to the flavour of the bread. In Ireland, it is generally made like the Scotch porridge, by scalding it and stirring it into boiling water, until a hasty pudding is prepared, when it is poured out and eaten with a little sugar or treacle, if obtainable, and with milk. This is called stirabout, and has a rough and not agreeable flavour. When prepared in a peculiar manner, as in the Oswego corn flour, it offers excellent and agreeable farinaceous material for puddings, but so prepared its cost is much enhanced.

"The nutritive qualities of maize are very considerable, since it offers more carbon and nitrogen than is found in an equal weight of wheaten flour, viz., 2800 grains of carbon, and 121 grains of nitrogen in each pound, besides a considerable quantity of free hydrogen, which is found in the fat, a substance in which the grain is somewhat rich. In point of economy it exceeds all other grains, since it is sold at a penny per pound, and offers the above large quantities of nutriment for that sum. It is, however, highly probable that it is not fully digested when taken in large quantities, for the amount which leaves the bodies of those using it daily is very considerable, much more than would be found with a bread dietary."

At the present time, when food threatens to become so expensive, it is not unlikely that maize, or Indian corn meal, may be more generally used in this country. We therefore give Dr Smith's practical instructions to the poor, as to the best methods of preparing it.

"When you can buy it, you will find it a stronger and cheaper food than flour. Make into:—

1st.—Hasty pudding, by sprinkling it into boiling water, and boiling it for a short time. Eat it with milk, sugar, treacle, or butter.

2d.—Cakes, by stirring it well in hot water or skim milk, and then baking it in the frying-pan or dutch oven, or upon the hot hearth; or spread upon a board, and lay near to the fire. Eat them hot, with milk, butter, or treacle.

3d.—Puddings with milk, fat, or spice."

Among the many varieties of "farinaceous food," there are few which do not consist of flour highly baked, or subjected to some heating process. Sometimes a little lentil, or pea flour is added, or a little potato flour, or arrowroot. "Prince Arthur's farinaceous food, suitable for infants and invalids of all ages," is said to consist only of wheat flour, slightly baked. Refer to article—Cookery for the sick, in the Appendix.

FUCUS VESICULOSUS. — (Bladder Fucus), or-sea wrack, has been used in disorders connected with enlargement and disease of the glands. It, no doubt, owes any efficacy to the iodine which it contains. The wrack is taken when in fruit, dried, cleaned and exposed to heat in an iron crucible with a perforated lid. It is then reduced to powder, and it may be taken in the dose of from 10 grains to half a drachm twice a day, in a little honey or molasses. It is a popular remedy in goitrous swelling of the neck, as well as in all manner of scrofulous swellings. Burnt sponge is used for the same class of cases, and both it and the Fucus have long been much in favour among the poor who live on the sea-coast. The powder found a place in the old Dublin Pharmacopœia, under the name of "powder of sea-oak;" but it is not admitted into the new British Pharmacopœia.

GLYCERINE is a substance which does not exist ready formed in nature, but enters into the composition of all oils and fats, whether animal or vegetable, and was discovered by the illustrious chemist Scheele, in 1779, who called it the "sweet principle of oil." It is obtained in great quantity, during the manufacture of the well-known Price's candles. Thin glycerine, and also, it may be said, English glycerine is quite the best. The properties of glycerine, have been much studied on the continent. The Emperor of Russia caused many little bottles of it to be distributed among the poor inhabitants of the Cacausian mountains, who suffer so much in winter from fissures of the skin, on the hands, &c. The supply was obtained from a candle manufactory at Odessa.

It has been used very extensively as an application to many skin diseases, both alone and as a constituent part of many ointments and soaps. It is also much used in medicine as a most convenient solvent for many drugs, in the treatment of disease of the eye, throat, &c., and was fairly tried at the Brompton Hospital as a substitute for cod-liver oil, in pulmonary consumption. The results obtained were negative as to benefit, or the reverse. Those who believe in its use in consumption, will find the following a good prescription, especially if there is emaciation, loss of appetite, or profuse perspiration:—Take dilute nitric acid, two drachms; glycerine, two ounces; infusion of quassia, sixteen ounces—mix. A tablespoonful to be taken three times a-day. Amongst the most useful properties possessed by glycerine may be mentioned its antiseptic power, that is to say, its capability of preserving substances immersed in it from decay. Hence it is much in use in the preparation and preservation of microscopic specimens of the animal tissues, &c., &c. On the continent it is highly praised as a remedy or preservative against hospital gangrene, though surgeons in this country have not found it so.

One ounce of glycerine added to ten ounces of water, forms a lotion which can be applied so as to constitute a kind of protective varnish, which might be useful in some cases of burns, also in cutaneous diseases.

Borax and glycerine form an excellent combination as a lotion to be applied to many cases of scaly eruptions of the skin. Take twenty to forty grains of borax, one ounce of glycerine, and seven ounces of elder flower water. Mix—apply the lotion night and morning. The following lotion is very valuable in certain cases of skin disease, with much irritation and itching:—Take of glycerine two ounces, dilute hydrocyanic acid, one drachm; bicarbonate of soda, two drachms; water to one pint. The lotion to be applied night and morning.

One great objection to the free use of glycerine is that it is rather expensive, at all events, for the poor, to whom it is so serviceable in cold climates. It is to be hoped that it will become cheaper, owing to facilities and improvements in the process of manufacture.

HAY ASTHMA, or Hay Fever, is one of the most troublesome diseases which the physician is called upon to treat; one, too, which varies extremely in its severity, presenting in one person the symptoms of an aggravated common cold, and in another, in addition to these, the disagreeable and alarming accompaniment of spasmodic asthma. It is decidedly ascertained to be caused by the odours of certain flowering grasses which cattle will not eat; by spring grass generally, and by the odours of certain drugs, as ipecacuanha, the merest whiff of the powder of which causes some susceptible persons to be immediately seized with paroxysms of sneezing, so violent as to be very painful, if not alarming to witness. A sufferer from this troublesome complaint is indeed entitled to sympathy. His head aches, his eyes are suffused, he sneezes violently, and there is an acrid discharge from the nose, with harassing cough. Attacks of spasmodic asthma follow, accompanied, it may be, with great difficulty of breathing, and a sense of impending suffocation. There is nothing for it in such a case but to remove from the cause of the disorder, otherwise it may run on for a month or more. A change to the seaside is often attended with beneficial results.

The treatment of the disease must be naturally divided into that required during an attack, and that which it is desirable to employ, in order to render the system less liable to the disease. During a paroxysm, perhaps the most simple and efficacious remedy is the smoking of tobacco, which generally gives relief, if continued till slight nausea comes on. Such is the relief to the breathing in some cases that the patient has been known to fall asleep with the pipe in his mouth, so great had been the previous exhaustion from the struggle for breath. The inhalation of the vapour of creasote, as reccommended by Dr Walsh* and the use of antispasmodics generally, as ether, lobelia, with the compound tincture of camphor, should be used; or, a few small pieces of camphor may be placed in a tobacco pipe and the vapour inhaled. While free from attack, the constitution of the patient should be strengthened by a liberal use of tonics, specially iron, strychnine, arsenic and quinine, either alone or in combination.

HEALTH RESORTS.—This term, now so common, was first used by the author, and made the title of a work on the subject, entitled "Health Resorts of Great Britain; and how to profit by them," published in 1860. In this book, England is divided into certain health districts, and it is sought to instruct the reader as to the advantages and disadvantages of each, as well as their adaptability for individual cases of sickness. The question of climate is largely entered into, and advice is tendered on bathing, and the use of mineral waters.

It is strongly recommended that in case of illness, an invalid, whilst following the advice of his or her trusted medical attendant, should always, on going to a health resort for health reasons, add to the advice which sent them from home, that of some medical man of reputation resident in the locality they have been sent to. None but local practitioners can be fully conversant with the requirements to be observed and the advantages to be made the best of, and even a single consultation may make the difference between benefit derived and time saved, or the reverse.

The standard book on British climate and health resorts has yet to be written; but this cannot be done by one man. A flying visit from place to place, testing and tasting and bathing in the water, or looking over the squares and crescents, can give no adequate idea or sufficient foundation for a trustworthy guide. A thorough work on the subject must be a compilation from succinct reports or short treatises furnished by one or more of the most competent practitioners of each locality; or better still, by a committee, as in the case of the excellent publication "Harrowgate and its resources." The principal drawback to a work so compiled would undoubtedly be the natural tendency of each individual to magnify the resources and advantages of his own locality, but this would not be irremediable, and would be small evil to counterbalance the good achieved.

It is very certain that many people, from want of proper information on the subject, make a very bad choice of a health resort, and that there are many more who, to say the least, do not make the best choice, and do not reap all the advantage which they might derive from residence in a place suited to their wants. Hence, before starting, each person should ask himself—what is to be the object of his sojourn from home, and what it is he goes to seek? Is it merely pleasure and society, either inland or at some of our fashionable seaside quarters, or does he wish to avail himself of one of the sheltered places with which the southern part of our island abounds, where he may find a refuge from the cutting east wind, and all the horrors of damp and cold? Is it a place to spend the winter at, where even the most delicate may leave the house and breathe the fresh air every day, instead of being afraid to leave the fireside, or to pass from one room to another? or, finally, is it a watering-place that is desired, in which case it is highly necessary the patient should be well-advised, not by enthusiastic friends, but by a medical man, as to the waters he is to drink or bathe in, as well as to the climate he seeks?

Persons in the early stage of consumption, or those who are liable to attacks of bronchitis in the winter, persons suffering from certain forms of heart disease, with its numerous complications, from asthma, and emphysema of the lungs, as well as persons of a weak and feeble constitution generally, will often derive benefit and prolong life by passing the winter at one of our warm and sheltered health resorts, provided always that it be well selected according to medical advice, and provided, also, that the best locality for the individual case is chosen by the advice of those to whom the place itself is well known.

Among the most favourite resorts for such cases may be mentioned Bournemouth, Hastings, Margate, Torquay, the Undercliff of the Isle of Wight, Clifton, Brighton, St Leonard's, Ramsgate, Dover, Folkestone, and the islands of Jersey and Guernsey.

Bournemouth is one of those places which has sprung into notoriety from absolutely nothing, owing to its semi-natural advantages, consisting of finely sheltering pine-clothed hills, which effectually shut out the bleak cold winds of less favoured

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[*] Half a drachm of creasote may be added to a pint of boiling water, and the vapour inhaled. See "Inhalers," Appendix.

localities, and upon the slopes of which there are to be seen so many beautiful and picturesque villas or cottages. The place is now firmly established as a winter residence, and has received the name of the winter garden of England. The temperature is rather lower than that of the Undercliff and Torquay, but, on the other hand, it is less relaxing and depressing to some people, and has the great advantage of fine walks and drives in abundance.

It speaks well for the healthiness of the locality, that after careful consideration this was selected as the site of the sanatorium, in connection with the far-famed Brompton Hospital for consumption and diseases of the chest. Patients who are admitted on the recommendation of governors, each pay a small sum weekly.

There is pretty good sea-bathing to be had at Bournemouth, though it is not an agreeable summer residence, owing to the abundance of sand, which is blown about in great clouds when the wind is high. It is strongly recommended as a residence for those who, having lived in warm climates, have become morbidly susceptible to the effects of cold and damp, and for rickety and delicate children, who are said soon to recover strength and tone from the constant exercise they may be allowed, in the warm, dry, and beautiful playground afforded by the beach.

Hastings is so well sheltered by the tall cliffs which guard the little valley in which the town lies, from the dreaded east and north winds, that it is often chosen as a refuge, especially during the months of January and February, for those to whom these winds oftentimes bring disease and death. Besides the shelter of the cliffs, which are from 300 to 600 feet in height, it has all the advantage of southern exposure, and of close proximity to the sea. Sir James Clark says of Hastings, "as might be expected from its low and sheltered situation, it affords a favourable residence generally to invalids labouring under diseases of the chest; hence, delicate persons, who require to avoid exposure to the north-east winds, may pass the cold season here with advantage. But in recommending Hastings as a residence in such cases, it will be necessary to take into consideration the full influence of the sea air; for owing to the close manner in which the place is hemmed in on the sea by steep and high cliffs, it has an atmosphere more completely marine than almost any other part of the coast, with the exception of St Leonard's. Judging from my own experience, I should say that the climate of Hastings is unfavourable, in nervous complaints, more especially in nervous headaches, connected with, or entirely dependent upon derangement of the digestive organs, and also in cases where a disposition to apoplexy or epilepsy has been manifested; but it will be understood, from what has been already stated respecting the topographical relations of Hastings, that this effect of its climate is chiefly experienced in the lower and more confined parts. Nor is such an effect peculiar to this place; it is common, I believe to all places similarly situated. The class of persons alluded to, if induced to reside for any length of time at Hastings, should avoid the more confined situations, below the cliff. and rather seek such quarters as are more open and elevated, yet in some degree protected from north and north-east winds."

"These remarks on the climate of Hastings apply to it as a winter residence; as a summer residence the more open and exposed situations should be sought, and for many persons, the high grounds behind Hastings, would be preferable to the lower situations close to the shore."

Like most other watering-places of the same class, all parts of the town are not alike sheltered, and consequently medical advice should be taken as to the best situations for particular cases, and those parts which are exposed to the cold winds should be studiously shunned by the delicate in their walks. The sea-bathing is excellent, with a sandy beach; and those who visit the town, find every accommodation.

Perhaps no town can boast of a situation more favourable for the mildness of its climate than Torquay, which is placed between the river Dart, on the one hand, and the rivers Ex and Teign on the other. It is said to be almost entirely free from fogs, and to be remarkably dry and warm. It is particularly well sheltered from north-east and north-west winds, and like other places, allows of considerable variety of climate at different seasons, and to different classes of visitors. The surrounding country, varied by wooded cliff and cultivated slope, encompassing the beautiful bay, has been called the garden of Devon, and presents the most charming variety of scenery. The irregularity of the coast is such, that even within the town itself, the medical adviser is enabled to choose different situations for his patients, according to the description of atmosphere which he thinks will be most beneficial for them, and it can readily be imagined how the warmth of the lower and more sheltered parts of the town may be favourable for one class of cases, while the stimulating breezes of the higher and more exposed parts may be required for others; hence, there is no place in Great Britain which has a higher reputation for relieving the symptoms and prolonging the lives of patients suffering from consumption and chest ailments generally. It is, perhaps, warmer during the winter than any other place in Britain, whilst it is comparatively cool in summer. In winter, it has a mean temperature of three degrees above the Undercliff of the Isle of Wight, and of five degrees above Clifton and Hastings. It abounds in pleasant walks, and is in every way a most useful, interesting, and beautiful health resort.

Most persons are aware that Torquay derives its chief celebrity from the comparative warmth and mildness of its climate, as contrasted with other places in Britain; and hence its high claims to usefulness in the case of consumptive invalids. Mild, however, as the climate is, its equability, not only as regards humidity, is perhaps, a more striking and beneficial characteristic. Although the climate of Devonshire, generally, is a damp one, it would appear that Torquay is drier than other parts of the country, and drier, when compared with other districts of Britain, than it has generally been considered; the reason we have already given, being the attraction of the rain, by the vicinity of the rivers, and of the elevation of Dartmoor. The following, copied from Mr Vivian's tables, will best illustrate the above :—

Taking the

Average Number of Days upon which Rain falls.

		Annual.	Winter.	Spring.	Sum.	Aut.
At Torquay	it rains	132	35	30	32	35
" Undercliff	"	146	39	32	33	42
" Clifton	"	169	45	36	41	45
" Hastings	"	158	39	31	33	49
" London	"	178	48	43	44	43

Again taking

The Quantity of Rain in Inches.

		Annual.	Winter.	Spring.	Sum.	Aut.
At Torquay	there falls	28·20	6·82	5·61	6·38	9·39
" Undercliff	"	23·48	4·65	4·06	4·29	9·48
" Clifton	"	32·56	8·43	5.69	9.44	9·00
" Hastings	"	32·81	7·59	5·80	6·40	13·02
" London	"	24·80	5·85	4·80	6·67	7·43

As might be expected, even without reference to the above table, the autumn and winter months are considerably the most damp at Torquay. Moreover, as stated by Dr. Shapter, in his work on the climate of the South of Devon—"During the winter season the south wind is often accompanied by a warm thick mist, which is particularly relaxing, and, from its frequency, not inaptly styled 'Devonshire weather.' This wind, traversing the Atlantic from the warmer latitudes, reaches the coast charged with a greater degree of moisture than the air can contain, when cooled by the lower temperature of the local climate; the result is, the misty appearance of a great dew deposit." Evidently then, if Torquay is not so regularly moist in every season of the year as it has been usually considered, it is, in winter, a moist and relaxing climate, and this point requires to be taken into consideration by those persons who, either of their own accord, or in accordance with medical opinion, fix upon it for a residence. For, however beneficial the soft moist atmosphere may be in some diseases and states of constitution, it is no less injurious in others.

The Undercliff of the Isle of Wight, with Bonchurch and Ventnor, may be taken as the most favourable situations in that island for those who wish all the advantages of fine scenery with warm climate and shelter from cold winds. Sir James Clark says of it:—"The whole of the Undercliff, which presents in many places scenery of the greatest beauty, is dry and free from moist or impure exhalations, and is protected from the north, north-east, north-west, and west winds, by a range of lofty downs, or hills of chalk and sandstone, which rise boldly from its upper termination of a series of terraces composed of chalk and green sand which have slipped down from the cliffs and hills above, and been deposited in irregular masses upon a substratum of blue marl." Thus the Undercliff is only exposed to the south, south-east, and south-west winds. The beautiful scenery is especially to be recommended, for it is of that kind which is particularly pleasing to invalids, presenting a combination of wooded cliffs and knolls, the trees being covered with foliage of the greatest luxuriance, and serving to add beauty as well as shelter to the many handsome and picturesque villas which adorn this charming neighbourhood. The village of St Lawrence beyond Ventnor, is said to be the most sheltered spot of the Undercliff district, a point to be borne in mind by those to whom such a situation has been specially recommended, for here the most delicate may enjoy many delightful days in the open air, even in the month of December.

Clifton, which is close to or rather a continuation or suburb of Bristol, has lately become a resort for invalids suffering from consumptive tendencies, or from delicacy of chest, &c. It is said to be the mildest and driest place in the west of England, while it is drier and more bracing than Devonshire, so that Clifton is preferable for those whose constitutions are easily relaxed, who suffer from a want of tone, from indigestion, and debility; while such a place as Torquay, with its comparatively more humid and soothing atmosphere, is preferable for those who suffer from very irritable affections of the chest.

The locality is picturesquely wooded, the town is sheltered by rocky cliffs, and the crescentic form of the buildings in the town itself, affords a shelter in many of the terraces from the cold northerly winds.

Brighton, in the later summer months especially, is a most delightful residence for those who are not likely to be injured by the high winds, which are, however, often a source of real danger to those who are ignorant of their intensity, and who expose themselves freely to them, in their walks on the pier and on the downs. Of no place, perhaps, in Britain need it be said more than of Brighton, that it is highly necessary to choose a suitable part of the town for a residence, seeing that there is a remarkable difference of climate between one situation and another not far distant from it. Dr Wigan gives the following sagacious advice on this point. He says:—"An invalid resorting to Brighton should be sure that he is well advised, in the first place in going at all; in the second, that the season of the year is the proper one; and thirdly, when he gets there, that he chooses his site of residence where he is likely to derive most benefit from the climate." It must be understood that as a winter residence for invalids, Brighton is not so well sheltered and warm as Torquay, Hastings, and several other places which might be mentioned, and that from its exposure to high winds, it is not at all a desirable place of abode during the months of March, April, and May.

It stands unrivalled as a general place of amusement and resort for those who require a holiday with the pleasant adjuncts of society, fresh air, and plenty of it, with amusements and recreations of all sorts.

The climate of Jersey and the Channel Islands, generally, may be described as somewhat similar to that of the warmer parts of the south-west coast of England, so that, in a word, while it is suitable for cases of irritable chest affection, especially during the winter, which is very mild, it is too relaxing for many invalids who suffer from indigestion, general relaxation, and want of tone of the system.

The mildness of the winter in the Channel Islands, is shown by the fact that many flowers and delicate plants can be easily collected there, in the open air, which would certainly never survive the rigour of a British, or even a continental winter.

Dover and Folkestone are scarcely to be recommended as health resorts for the invalid, though they are now a good deal frequented by those who require a modified winter climate. It is not to be supposed that Dover, with its high winds, is suitable for many cases of delicacy of chest for instance, while it will be found a pleasant resort for those who are able to enjoy rambling over its fine cliffs and inhaling its invigorating sea-breezes.

Having now given a short sketch of some of those places which are best adapted for consumptive invalids, or for those who are delicate, and require to choose a warm climate, more especially in winter, we proceed to indicate the best resorts for those who, suffering from disease of a peculiar kind, are directed to seek the aid of mineral waters, which are to be drank, or bathed in, or both. It is scarcely possible to over-estimate, the general value of mineral waters, it being a fact well known to physicians, that many patients can take medicines in this form, who cannot bear them in any other. Among the principal and most valuable mineral waters of England, may be mentioned the saline aperients of Leamington, Cheltenham, and Scarborough, the hot springs of Bath, Buxton, Bristol, and Matlock, the chalybeate springs of Tunbridge Wells, the chalybeate and sulphureous water of Harrowgate, the waters containing iodine and bromine of Woodhall, with those containing bromine, of Moira and Ashby de la Zouch.

Of those, the waters of Bath, Buxton, Bristol and Matlock, are hot, while the others are cold. Perhaps the diseases for which mineral waters are most frequently sought as a remedy, are, indigestion in all its manifold forms, with depraved appetite, debility and nervous symptoms, gout, chronic rheumatism, paralysis and chronic diseases of the skin. They are especially useful in those cases which prove intractable by other remedies, and in which the patient suffers from depression of spirits, or has had an excess of mental labour. With regard to indigestion, it would be impossible to recommend any one water which would be suitable for every case of this Protean malady; and indeed, it may be urged that in all cases of disease, of what kind soever, medical advice should be resorted to before and during the taking of the mineral water, and, if possible, advice from medical men on the spot, who have had experience in the action of the waters upon different diseases in different constitutions.

In gout, the waters of Bath, Buxton, Leamington and Cheltenham, have a high reputation, while abroad, recourse may be had to the waters of Vichy, Carlsbad, Wiesbaden, or Aix-la-Chapelle. For the old standing and painful forms of chronic rheumatism, often not amenable to ordinary treatment, which are always tedious in their progress to recovery, and in which the symptoms consist mainly of pain, swelling and stiffness of the affected joints, great benefit has often been derived from the diligent use, both external and internal, of the waters of Harrowgate, Buxton, Moira, Ashby de la Zouch, and Bath, or from the springs of Baden-Baden, Wiesbaden, Carlsbad, Vichy, or Aix-la-Chapelle on the continent.

In the treatment of diseases of the skin of long standing, the sulphureous waters of Harrowgate enjoy an unrivalled celebrity and no doubt this is due in great measure to the beneficial influence exerted by these waters upon the system generally, when judiciously applied, and especially to their alterative and corrective power upon dyspepsia, in all its numerous and varied forms, arising from mal-assimilation of the food in its passage through the stomach and intestines, and connected with derangements of the liver, pancreas, &c.

There is a very good sulphureous spring at Moffat, in Dumfriesshire, Scotland, and the most celebrated on the continent, are those of Bareges, Cauterets, in the Lower Pyrenees, Bagneres de Luchon, Bonnes, Aix in Savoy, Aix-la-Chapelle, and Enghien.

Chalybeates, or mineral waters containing iron, are useful in certain cases of anœmia and debility, where the features are blanched and pale, and the red particles of the blood are obviously deficient. Now, it often happens that when iron cannot be borne by the stomach, in the shape of medicine properly so called, these chalybeate mineral waters come into play, and are not only borne, but quickly restore colour and freshness to the faded cheek, and health and vigour to the system generally. In certain menstrual derangements, also, they are invaluable. The principal in this country are Tunbridge in Kent, Scarborough, Harrowgate; Moffat, or rather Hartfells, and Peterhead, in Scotland; and abroad, we have Spa, Pyrmont, Passy, Forges and Bussang.

Gaseous, or acidulated mineral waters, called also soda or beer springs, depend upon the carbonic acid gas which they contain, for their curative or medicinal properties. They *sparkle* when drawn from the spring, or when poured into a glass. They have a peculiar and characteristic sharp, acidulous taste, which, however, they soon lose, and become quite vapid, if exposed to the air. Owing to the action of the carbonic acid gas, they are soothing and grateful to the stomach, stimulate the nervous system, increase the appetite, and hence, are of great value in cases of dyspepsia and hypochondriasis. Of course their properties are modified by the nature of the saline ingredients which they contain. Amongst the most celebrated are those of Cheltenham and Scarborough in England, of Seltzen, Spa, Pyrmont, Bar, and Chateledon, and the sweet springs of Virginia.

Many of the mineral waters both of this country and of the continent, may be had bottled, and sent to all parts of the world; but there can be no doubt that in nine cases out of ten, in addition to all the advantages to be derived from change of scene, &c., it is better to drink them as they issue from the spring. Mineral water salts are also sold, as, for instance the far-famed Cheltenham salt, which is made sometimes from the waters, but oftener, probably according to some such formula as the following:—Take of common salt, sulphate or magnesia, or epsom salt, and sulphate of soda, of each, one pound; dissolve, filter, evaporate to dryness; then add half an ounce of sulphate of iron. Artificial Cheltenham water may be made of—epsom salts, 12 grains, iron filings, 1 grain; Glauber's salts, 4 ounces; water, 4 gallons, impregnated with the gas of marble powder and sulphuric acid, of each, two ounces. Harrowgate salts, and artificial Harrowgate water are also well-known.

The waters of Bath have a temperature of from 112° to 117°, of Buxton 82°, of Bristol hot well 74°. Those of Buxton are tepid, and those of Matlock and Malvern scarcely tepid.

HOUSEMAID'S KNEE.—This affection has been so called on account of its frequent occurrence in servants who have to kneel much upon hard floors, or stairs, as, for instance, in scrubbing hard stone, or wooden stairs, passages, &c. In fact it might, with almost equal propriety, be called scrubber's knee, although it is met with in shopkeepers, and in all those who, from the nature of their trade, or otherwise, habitually exert much pressure upon this part. The affection is usually chronic, and presents itself as a colourless, prominent, round swelling, just upon that part of the knee upon which we kneel. When quite chronic, rest, and painting the part over occasionally with compound tincture of iodine, will generally suffice for a cure. When acute, red and painful, especially if accompanied by a tendency to erysipelas, medical advice should at once be sought, as it will then probably require active treatment to subdue the inflammation.

HYDROCOTYLE ASIATICA, or Asiatic Pennywort, is a plant belonging to the natural order umbelliferæ, and is found in India, the Cape of Good Hope, and Jamaica. The syrup made from this plant, and called syrup of hydrocotyle, has been pretty extensively used as an astringent in the treatment of diarrhœa and dysentery. It has also been said in India to be a remedy for scaly diseases of the skin. The leaves of the plant are applied to wounds on account of their soothing properties to keep down inflammation. According to some writers the plant has diuretic properties, which might well be made the subject of further inquiry and research.

INHALERS.—The method of administering remedies of different kinds by means of inhalation, for the cure, and in many cases, for the relief of disease, is now so general that it seems well to give some idea of the way in which this is effected by the instruments used, called inhalers.

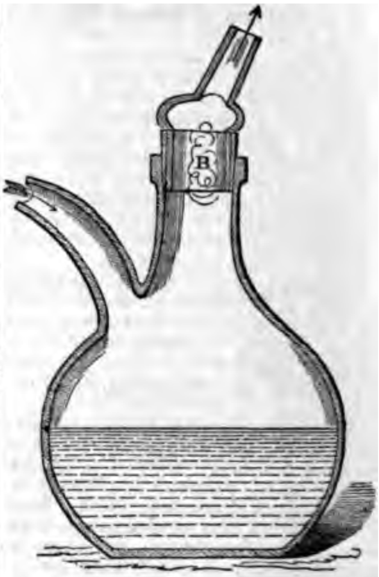
These latter are now so numerous that it would be quite endless to describe them all.

The following is an illustration of Dr Nelson's improved earthenware inhaler, an apparatus for the inhalation of the vapour of hot water, either alone, or impregnated with ether, chloroform, henbane, creasote, vinegar, &c., in affections of the throat and bronchial tubes, asthma, consumptions, &c.

Directions for Use—Remove the corked stopper, and fill the vessel half full of hot water, then pour the remedy to be employed upon the sponge, contained in the hollow tube at B; and, having replaced the latter, inhale the vapour through the mouth-piece at A, the exhaled breath passing freely through the tube at C.

For the inhalation of the vapour of hot water only, or the infusion of stramonium, hops, or other medicinal plants, the sponge in the tube need not be displaced.

There is to be had a portable oxygen inhaler for Robbins's patent oxygenuesis. This inhaler is an improvement by Dr Richardson of his original oxygen inhaler. Drugs for the production of oxygen and other gases are introduced into such inhalers, and are respired in greater or less degree by the patient.



Instruments may also now be obtained for subdividing fluids into the finest vapour, or spray, by which means they may be easily brought in contact with the mucous membrane of the throat, nostrils, windpipe, &c., and in this way many valuable and important remedies can be used that were formerly inapplicable to such cases. The fluid is poured into the receptacle of the instrument, and then a handle is turned so that, by means of the machinery, the finest spray is obtained, and can be inhaled by the patient. It will be evident to any one that liquid substances can in this way be brought in contact with parts of the throat and air passages, and of the gullet and posterior openings of the nostrils. Gargling is a very imperfect and unsatisfactory method of applying such remedies, as it is only possible to reach a very small portion of the throat in that way, but when the above mentioned instrument is used the vapour penetrates to all parts in the neighbourhood of the throat, and is equally diffused over them.

The following inhalation will be found useful in cases of foul breath from ulceration at the back of the palate, nostrils, gullet, &c. Take of creasote one drachm, boiling water, a pint, mix, and inhale the vapour.

Turpentine is sometimes useful, when inhaled, in checking excessive expectoration, especially where there is old standing bronchitis with dilatation of the bronchial tubes. The following formula is recom-

l—Take of oil of turpentine 2
lukewarm water half a pint, mix,
ale the vapour.
ollowing kind of inhalation has been
f great service in some cases of con-
n, but it should not be resorted to
t the sanction of medical advice, and
hen should be used with extreme
, as it is very apt to disagree with
eople, causing unpleasant spasm
gh. Take of tincture of iodine 20
tepid water 4 ounces, mix, and in-
e vapour.
nexed engraving represents a modi-
of Dr Siegle's improved patent inhala-
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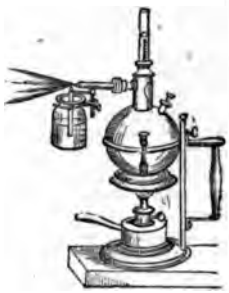
ulverizers, but the above will give
of the nature of the instrument.



Y-FISH, Stings of the.—The
g interesting and instructive re-
f Dr Greenhow, published in the
Medical Journal, may be of use to
ho are fond of bathing, and who
to be in localities infested by jelly-

ing formerly passed some years on
coast, it used to happen that I was
es consulted by persons who had
ng whilst bathing by some of the
s, with which the ocean abounds
in seasons. The immediate effect
d by touching the filaments of one
creatures is a sensation of sting-
ich extends up the affected limb for
stance from the point of contact.
ly the part becomes red, swollen,
der; and occasionally, especially in
females and children, the entire
the course of an hour or two, be-
uch swollen, red, and exceedingly
The redness and swelling some-
rminate in a well defined border,
ing that of a wheal, but in other
the ailment does not bear any
ance to urticaria. These symptoms
subside spontaneously, if allowed
, in the course of three or four
t meanwhile they often cause con-
suffering, render the affected
re or less useless, and as they
formidable appearance, often pro-
dless anxiety, especially to persons
unacquainted with the nature of the injury. Having previously found spirits of hartshorn, when applied early, a very effectual application for preventing the irritation caused by musquito bites, I was led to try an alkaline and stimulating lotion, consisting of a solution of bicarbonate of potass, sesquicarbonate of ammonia, and spirit of hartshorn, in these cases, with a most satisfactory result. I do not recollect the exact form of the lotion, but believe it consisted of one drachm of each of the salts, and half an ounce of spirits of hartshorn, to six ounces of camphor mixture. This application, if freely used soon after the injury, affords almost immediate relief; and although the benefit is more tardy if it be not applied until the effect of the injury has been thoroughly developed, yet even then its use rarely fails speedily to mitigate the suffering and swelling, and to remove them almost entirely in the course of a few hours."

LARYNGOSCOPE.—This is an instrument recently invented, and used, as its name indicates, for the purpose of examining the interior of the larynx. Its introduction has added so much to our knowledge of the diseases of the throat and windpipe, that several new affections of these parts are now described in medical works for the first time. A description of these diseases, and of their recognition and treatment, would be unintelligible and uninteresting to the general reader; at the same time it is satisfactory to know that many cases of marvellous success are now on record which could neither have been recognised nor treated without the wonderful instrument, which may truly be said to have enabled the "dumb to speak and the deaf to hear." The instrument has been of the greatest service in investigating affections of the voice in speaking and singing, morbid growths, such as cancer, warts, &c., of the larynx, as well as all deformities of and injuries to that organ and the throat generally, and diseases of the nose, mouth, and windpipe. It has also enabled medical men to ascertain the presence of, and to extract foreign bodies, which have accidentally found their way into the larynx, and become lodged there.

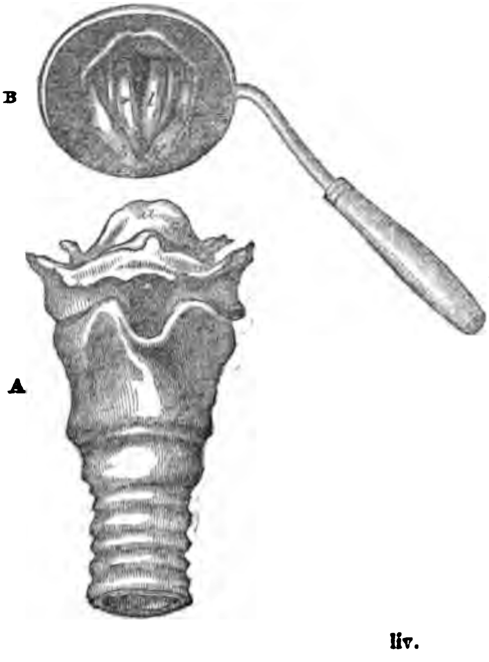
The first idea of a laryngoscope seems to have emanated from the mind of our countryman, Dr Benjamin Babington, as early as the year 1829, for he then submitted to the Hunterian Medical Society "An ingenious instrument for the examination of parts within the fauces, not admitting of inspection by the unaided sight." It consisted of an oblong piece of looking glass, set in silver wire, with a long shank. Directions for the use of the instrument are given, and further on he says: "A strong light is required, and the instrument should be dipped in water so as to have a film of the liquid upon it when used, or the halitus of the breath renders it cloudy." The doctor proposed to call it the "glottiscope."

Afterwards the same idea was more or less carried into practice by several medical men both in this country and on the continent. For instance, Professor Liston was in the habit of using an instrument of a similar kind to that above mentioned in examining the throat, as was also Dr Warden. The chief merit, however, of introducing the laryngoscope in a very complete form into medical practice belongs to Professors Turck, of Vienna, and Czermak, of Prague; and certainly the highest praise is due to the latter of these gentlemen for the untiring perseverance with which he continued his efforts to perfect the instrument, and to make its use generally known and understood throughout Europe. Dr Czermak visited this country in 1860, and was kind enough, personally, to instruct his professional brethren in the manipulation of an instrument to the working of which he had himself devoted so much attention, and which, though now much improved and simplified from the suggestions and experience of others, has since become associated with his name as one of the most valuable aids to medical practitioners in the investigation of disease.

The laryngoscope consists of a little mirror fixed into a long handle. Before it is introduced into the mouth it should be warmed in hot water. Whilst this is employed, the throat is at the same time illuminated by means of a round mirror worn upon the forehead, so as to leave the hands of the examiner free. This is arranged with an elastic band, so that it can be adjusted to any position.

The patient or person to be examined is seated on a chair at one side of a table on which there is a good lamp. If the latter is furnished with a reflector, so much the better, or if good sunlight can be had, nothing does so well. The little mirror (previously warmed) is then introduced to the back of the throat, while a strong light is thrown upon it from the mirror upon the examiner's forehead. In this way, by a medical man, who has through practice acquired facility and dexterity in the use of the instrument, the mechanism of the human voice in health or disease may be studied, while, at the same time, disease, if present, can be readily detected, and the fitting remedy applied. For the latter purpose numerous new instruments have been invented for the removal of growths, and the application of medicaments of one sort and another. Of these it may be said that they are unnecessarily complex, and that the simplest are the best.

The above remarks may appear to many quite unsuitable for the general reader; still it may not be uninteresting even to him to know that medical science is every day progressing and bringing many of its practical applications to the relief of human suffering and disease, and that of late years nothing has thrown more light upon matters hitherto obscure than this new instrument has upon diseases of the throat; a class of diseases, the importance of which can scarcely be exaggerated, when it is remembered that the loss of voice to many involves a loss not only of the enjoyment but of the means of maintaining existence.



As an illustration of the practical advantages to be derived from the use of this instrument, the following case, one among many, may be cited. A young man had suffered for several months from gradual loss of voice, hoarseness, and occasional choking fits at night, so severe as even to threaten his life. His medical adviser attributed all these symptoms to chronic inflammation of the larynx, and treated him accordingly, but without the slighest effect in relieving his sufferings, which grew worse day by day. His general health also was much enfeebled, owing to the severe course of treatment to which he had been subjected. At this time he sought the advice of a gentleman, who examined his throat by means of the laryngoscope, and immediately detected a small polypus, or tumour, hanging by a narrow neck or pedicle in the air passage, just at the most important point where the mechanism of the voice is situated. or, in medical language, between the vocal cords. This polypus was at once seized with a pair of forceps, and extracted, with immediate relief to all the distressing symptoms of the patient, and the complete restoration of his voice.

Many affections of the voice in females are well known to be dependent entirely upon a hysterical condition, and when a medical man has taken this view of any particular case it is very satisfactory to be enabled by means of the laryngoscope to confirm his *diagnosis*. A careful examination of the patient's larynx shows him the absence of any morbid condition, and he at once concludes that the symptoms are entirely due to derangement of the nervous power governing the movements of the muscles of voice.

LARCH, TINCTURE OF, has been prescribed by some in the treatment of hemorrhage from the lungs. It has also been used in cases of chronic bronchitis. The dose of the tincture is from 20 drops to one drachm 3 times a day.

LARD.—The adulterations of this article are so frequent and so extensive as to require special mention. These are carried on in the most systematic manner, and are thus described by Mr Calvert—The lard is melted, and run into a trough, where it is stirred with cold water; it is then put under revolving wheels with a thick paste made of potato starch, potash, alum, and lime, which latter ingredient enables the lard to take up more of the starch into its composition; alum also is used to increase its whiteness and to preserve the starch used as an adulteration. Mutton suet is also used fraudently to mix with it. In fact, owing to the tricks of our dealers here (for it generally arrives in a condition of comparative purity from America), there is no substance more difficult to be obtained in a genuine state.

MAGNESIA, CITRATE OF, is an elegant effervescing aperient, not many years introduced, but now very commonly known and used. It has the advantages of being very agreeable to take, and very gentle in its action as a saline laxative, much more gentle than the old seidlitz powder, which it has largely superseded. The citrate of magnesia is now generally sold in the granular form—that is, made with large grains, by which it is rendered much less liable to undergo decomposition. — See article "Effervescing," Appendix.

The dose of the citrate is one, two, three, or even more teaspoonfuls, in a moderate quantity of water. It may be taken at any period of the day, but morning is the best time.

MICROSCOPE — RECENT APPLICATION OF, TO MEDICAL PRACTICE.—It may reasonably be doubted if any of the great improvements, or additions to our means of investigating the nature of disease, can take rank with the introduction of the microscope. Many diseases before unknown are now familiar as household words, and many also of which our knowledge was formerly very obscure, are now, by its means, thoroughly understood, and capable of being scientifically treated. Perhaps the relation of a few instances will do more than anything else to illustrate the benefit we have derived from the microscope in various ways.

We will suppose an obscure and difficult case, where the patient has repeated attacks of vomiting of blood. A drop of that blood being placed under the microscope is found to contain cancer cells. Now the causes of vomiting of blood are so numerous and complicated that no one but a medical man can have any idea of the satisfaction afforded to his mind by the certain and positive knowledge thus afforded as to the exact nature of the disease. Or take the same case in another light. The patient complains of the same symptoms, and the same test is applied. This time, however, to the patient's dismay, it is ascertained beyond the possibility of doubt, that the blood shown is not human blood but that of some one of the lower animals, and he is at once accused of feigning disease with, perhaps, some object in view. Again, a patient is suffering, perhaps, from indigestion, weakness, with intolerable depression of spirits, and other symptoms, which require to be felt to be described, and which have been treated by ordinary methods in vain. A drop of his urine is placed for examination under the microscope, a new light is immediately thrown upon his case and the appropriate remedy prescribed, with the result of a speedy restoration to health.

In no way has the microscope proved of more value to medical men than in enabling them to examine with precision and accuracy into the various conditions of the urine and kidneys, which constitute the affection called Bright's disease. Indeed, so remarkable is the advantage derived in treating the kidneys, from an examination of the urine, that medical men can tell their condition all through the course of the disease, and can foretell before death almost the exact state in which those organs will be found in fatal cases.

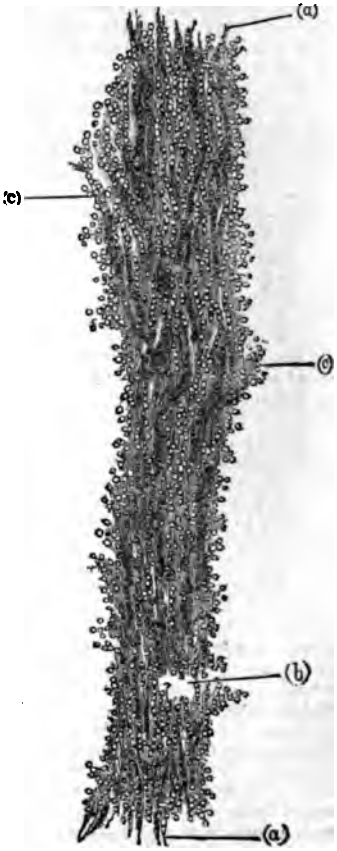
In affections of the stomach, or bowels, the microscope is very valuable in enabling us to ascertain the nature of vomited matter, if there be such. Pus and cancer cells and fibres, on being found, enable us to speak with great comparative confidence as to the nature of the disease. Animal, or vegetable parasites, may be discovered, or merely some functional error, or fault of digestion detected. The examination of the nature of the sputum in lung diseases is of the highest importance. In this way cancer, consumption, simple inflammatory disease, or inflammatory disease connected with some special local irritant, as we find in miners, and many other trades, may be successfully discriminated, and treated accordingly.

After a patient has had to submit to a dangerous and painful operation, it may be for the removal of a tumour, the question is often anxiously asked of the surgeon—Is there no danger of its recurrence? Now this is a question which, by the aid of the microscope in enabling us to examine the tumour, we are in a much better position than formerly to answer with an approach to certainty, and we can thus give much more definite and valuable information to friends and relations as to the probability of other members of the same family being affected by the same disease.

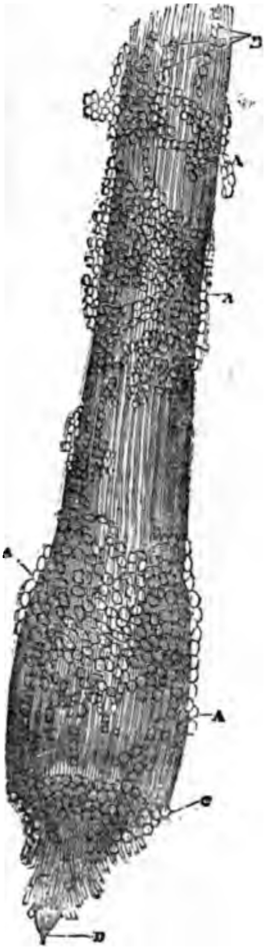
A consideration of these remarks will also show of what importance the microscope may be made in the examination of diseased tissues after death; in fact, it may be said that it is almost mainly to this method that we look for the means of extending our knowledge of disease upon a scientific basis, and that even now such important discoveries are being made as seem likely to introduce a new era into the practice of medicine and pathology.

Another way in which the use of the microscope may be said to be of value to all classes of people is in the readiness with which, by means of its aid, the fraudulent tricks of dishonest tradesmen, in adulterating food, can be detected. For instance, arrowroot, which, when genuine, is very expensive, is often adulterated with large quantities of potato starch, the grains of which, when viewed under the microscope, present characteristics which at once, and with the greatest ease, distinguish them from those of any other starch. Numerous other instances might be mentioned, where the tricks of trade are at once exposed by its means. It is comforting also to think that now-a-days, when diseased meat is so common in our markets (and from all accounts likely to become much more so), many forms of parasitic disease can be discovered even by very low microscopic powers, and in the hands of any tyro; so that it is to be hoped that the legislature will be compelled to do what ought to have been done long ago, viz., provide a proper system of inspection of markets throughout the country.

The discovery of the dependence of several hitherto unknown diseases of the human frame upon the presence of animal, or still more frequently of vegetable parasites, has led to an efficiency of treatment consisting in the destruction of the parasite which is followed by an immediate cure of the distressing symptoms. This alone, had we derived no other benefits from its use, would entitle the workers with the microscope to our lasting gratitude. The accompanying figure, from Dr Aitken's Practice of Medicine, shows, as seen under the microscope, a parasite fungus growing upon, and constituting a well-known disease of the hair and hair bulbs, called, Favus, or scald head.



he next figure, also from the same k, represents a hair, as seen micro- ically, loaded with diseased parasitic vth. This represents the morbid state ie hair in the disease familiarly known ingworm of the scalp.



rom a consideration of the above res it may easily be conceived how ortant an agent the microscope may me in determining the nature of a n disease, and in pointing to the re of the remedies necessary to be used ts cure.

ILK, PRESERVED.—The "Medical rder" gives the following method of erving milk for after use on board ship, or in situations where milk cannot be readily obtained.

"Twenty-eight pounds of white sugar, and a tea-spoonful of bicarbonate of soda must be added to 112lbs of fresh milk. The mixture is then evaporated in a water bath, at a moderate temperature, and stirred and agitated all the while, but so moderately as to avoid churning. In three hours it assumes a pasty consistency, and by constant manipulation it is reduced to a rich, cream-looking powder. It is then exposed to the air to cool, weighed into parcels of one pound each, and pressed into a brick-shaped tablet, which is covered with tin-foil. This will keep for any length of time, and may be grated and dissolved in water for use, answering all the purposes of ordinary milk, even to the making of butter."

Preserved milk is also sold in the liquid form, as well as in powder and tablets. Nothing could be simpler than the method of so preserving it. Boil the milk, and fill a number of bottles quite full. Cork and seal them well up at once. A little sugar may be added previously, with the effect of aiding the preservation of the milk. Sometimes the butter separates from preserved milk, and it may then be used as ordinary butter, and it will be found like the milk, to be of good quality. As a rule, the preserved liquid milk will keep for many months, but that preserved in the form of powder or tablets, will not remain sound longer than from a week to ten days or a fortnight.

NÆVUS, or as it is popularly called, "mother's mark," is often very troublesome and obstinate, and it is sometimes a very important and anxious question to settle, whether or not an operation should be had recourse to for its entire removal. According to Professor Zeissl, they may be removed by caustic potash when they are no larger than hemp-seeds; and by vaccination when they do not exceed the size of a bean or hazel-nut. He employs tartarised antimony when the dimensions of the nævus is not too great. Sixteen or eighteen grains of tartarised antimony are mixed with about forty-five or fifty grains of diachylon plaster and laid on the nævus, being secured there by strips of gummed paper. Suppuration is established in five or six days; and a crust is gradually formed, which falls off, leaving a quite superficial cicatrix.

NURSES FOR THE SICK.—For many years it has been generally agreed that there was nothing so desirable, and at the same time nothing so difficult to obtain, as efficient and proper nursing. Every one who has had to do with illness, can remember the tiresome, consequential, and often stupid domestic nurse, who, when some member of the family was ill, suddenly intruded on its privacy, and became a nuisance which could with difficulty be tolerated. Medical men could easily recall instances where their best endeavours for the health and safety of their patient have been frustrated by the ill-timed officiousness of the hired nurse, and in many instances some beloved relative who was most anxious to take her place by the bed of suffering has been compelled to give place to an indelicate, ill-bred, and ill-educated hireling, merely because she possessed, or was fancied to possess, a knowledge of the art of nursing. Now what we wish to maintain is, that every woman worthy of the name, ought to, and can easily obtain possession of this art. True, there are some women who seem to be born with it as a gift, but there are few who cannot, with the most ordinary care, acquire it.

The great desideratum is that we should have in this country numerous training institutions for nurses of all classes. Institutions into which no sectarian element should be allowed to enter, and which should have for their object the education of women in the art of attending to, nursing, managing and cooking for the sick. There are already, in this country, several such institutions, in connection with some of our large hospitals, and it is very desirable that they should be more numerous, so that the whole country might be supplied with trained and efficient nurses. But this is not all that is wanted, we think it necessary that an attendance for a time, at such an institution, should be considered if not necessary, at all events, a most desirable part of every woman's education, inasmuch as there are few women in this country who may not be called upon, at some time or other, to play the part of nurse to a sick parent, brother, husband, or child; and every medical man has witnessed the regret exhibited by women in such positions, when, too late, they have become painfully aware how unable they are properly to fulfil those duties in which a little practice and training would soon have made them proficient. The objects, then, of a Nurses' Training Institution should clearly be—1st. To educate a sufficient number of nurses to supply our hospitals and public institutions, as well as private families, with professional nurses, whose services can be obtained for hire; and 2nd. To afford private individuals, of all classes, an opportunity of becoming acquainted with the details of nursing even the most severe cases, details which entirely lose anything that is disagreeable in them, when they are performed in an orderly and efficient manner.

It is much to be regretted that in our large manufacturing towns, owing to the comparatively high price which female labour can command, it is oftentimes difficult to get women to undertake what they imagine to be a repulsive, and what is at all times a responsible and difficult office; but it may be confidently hoped that when such institutions as those mentioned above, are known to be well managed, and to turn out nurses whose services are properly appreciated, there will not be felt the difficulty which at present exists.

It will be seen, too, at a glance, that should cottage hospitals become general throughout this country, as is very probable from the success which has already attended their introduction, an immense advantage would accrue to the inhabitants of and around the villages in which they were established. For it might very easily be made a part of the system of these hospitals, to train and instruct one or two nurses, who should work under the direction of the female head of the hospital, be she styled "sister," "matron," "lady superintendent," or "head nurse," provided she herself has been properly educated at some such institution as described above. In this way a number of good nurses would be distributed over the country, whose services must prove of inestimable value to the sick, and who in their turn might be made useful in teaching others.

It is quite out of the scope of an article like this to enter into and detail the various duties of a nurse; suffice it to say, that there are several general rules which will admit of useful application by all. In the first place, then, a nurse ought not to stand too much upon the supposed dignity of her office, and refuse to do what are called menial offices, on the ground that it is not her "place," or her "business," so to do; she ought to remember that it is her duty to do the greatest amount of good to the sick person or persons intrusted to her care, and although it is not recommended that as a rule nurses should do the work of cleansing, scrubbing, &c., that is expected of domestic servants, still, a nurse that refuses to perform these offices when the good of her patient requires it, is, in no sense of the word, a nurse.

There is no more difficult subject upon which to enlighten the mind of nurses than ventilation. They are very apt either to suffocate the patient, or running to the other extreme, expose him to a draught, by means of which he gets some new disease or aggravates the one he already is suffering from. All that is required is a little management and commonsense in the opening of the windows of the sickroom; that is to say, as to when to open them, how much to open them, and how long to keep them open, according to the state of the atmosphere, wind, &c. It may be stated once for all, and the nurse will do well to remember it, that *we have as yet discovered no effectual means of ventilating either a sick-room or ward but by means of open windows.* At the same time, these require careful and constant management, otherwise the patient in many cases will assuredly suffer. In connection with the subject of ventilation, so far as it concerns the nurse, let it be laid down as an absolute rule, that no bedroom utensil should be emptied or cleansed in the bedroom, but should be at once removed to a suitable place for this purpose. Nothing is so irritating and offensive to the patient, and nothing is more prejudicial to his health, the effluvia given off during the process being most detrimental.

Another rule—Never air the bedding or clothing, or do any cooking in the sick room. It is most annoying, injurious to the patient, and it may be added, dangerous. The writer was once alarmed by the cries of a patient, and on rushing to the sick room, which had been left by a careless nurse, was horrified to find some clothes which had been put out to air, in flames.

It is to be desired that nurses would study to acquire a pleasing and agreeable modulation of voice, since nothing is so annoying to a patient as a discordant tone in speaking "out of tune and harsh," while nothing has a more marvellously soothing effect than a low soft voice—"that marvellous thing in woman." Cheerfulness is essential, and "Job's comforters" should be banished from every sick room, and never allowed admittance under any pretext whatever.

No nurse, however skilful, who is known to be a drunkard, should ever be trusted with a critical case, at a critical time, for although life and death may depend upon the fidelity of their watch, they have often, in the experience of medical men, been overcome by the strong temptation to drink, and have been found either drunk or asleep, while their patient—delirious perhaps—has tumbled out of bed, or bled to death.

A nurse who, either from stupidity or officiousness, or from a desire to make herself appear wise and important, either adds to or detracts from the orders of the medical adviser, under whose care the patient is, is worse than useless.

It is well to know that there are numerous cases in which the recovery may depend upon the *regularity* with which food and stimulants are administered, as ordered. This is a point upon which medical men have found great difficulty with inferior nurses, rendering it highly desirable that some supervision should be exercised upon them, to see that their orders are punctually and constantly, and perseveringly carried out.

A popular writer, in one of our periodicals, thus feelingly expresses himself on the subject of nursing:—

"Nursing is a faculty, not a science. It is a gift, not an acquirement. There are some worthy, tender-hearted, highly estimable people, who can never make decent nurses. You love them, you are charmed with them in society; you wish them all imaginable prosperity, but would as soon think of introducing a French horn and a dancing bear round about your sick-bed as of surrendering yourself to their best intentions. Let such people read every manual ever printed; let them walk the hospitals day and night, they would be no better for the experience. Nature forgot the pinch of kaolin which makes good nursing when she mixed up the clay of which they are formed; and art cannot always bolster up that which nature has left imperfect. Not that I would undervalue the scientific teaching of nursing. Given improvable conditions, it helps towards perfection in the art; and that means one of the ineffable, inexhaustible immeasurable blessings of humanity. But nothing comes out of nothing, and if nature had laid no foundation, how can art or science or anything else build up a superstructure? Pyramids are not raised downwards."

This humorous and withal sensible writer classifies nurses under the following heads:—

The good-natured, unscientific nurse, whose shibboleth is feeding, and who thinks that nothing can go well where there is not cheerful conversation and a busy kitchen; the muff, a precious creature for healthy homes, a tender, clinging, loving soul, whom every one declares must make one of the best nurses imaginable, whose theory of nursing is comprised in incessant personal attention and incessant personal caresses; but who must be given up at the end of a week, if you do not wish to give up the ghost.

Then there is the conscientious nurse, hard and practical; the grimbones who cannot judge for herself, but must act up to orders, to the letter, whatever may have taken place in the meantime. There is also the watching nurse, whose eye is never off you, and who wants to know every five minutes what you will take now. And who does not know the gruesome nurse, with small, cold stone-coloured eyes, with chiselled crisp curls, thin light lips and long-lined, granite-coloured countenance! And last of all and best of all, there is the dear fairy nurse, who is never in the way at the wrong time, and never out of the way at the right time; who, when you wish for her, presently appears at your side; and when you want anything, never keeps you waiting. Who is always cheerful and kind, but never fussy; and owns the rare faculty of seeming fresher after sitting up with you all night, than the rest of the household with their seven hours' bed.

Such a nurse is easier described than found; but it is not too much to expect that a good attendant upon the sick should be gentle, and watchful, and firm; and whilst carrying a cheerful countenance, take care to avoid all fuss of manner, all hurried movement, all ill-considered talk to her charge. Be quiet alike of foot and speech, wearing gowns that never rustle, shoes that do not creak. She should keep everything daintily clean; all things in their proper place, so that in an instant her hand can be upon what is required. She should pay the strictest attention to the doctor's orders respecting the temperature of the sick room, and regulate the lights with equal care. Whilst every article of food she offers to the invalid should be most carefully prepared, and presented in the most inviting manner possible. This is our model nurse; but most active women, with good common sense, who are able and willing to learn, may soon, by judicious teaching, be made good nurses, and may be of more service than many whose training has served no better purpose than to make them conceited and troublesome.

St John's House, Norfolk Street, London, has its training school at King's College Hospital, where hospital and private nurses are taught their work in the best way possible, and the House supplies the whole of the nursing the hospital requires. According to the last report it appears that there are 32 sisters, and 61 nurses and probationers; but the fact is that they are always under embarrassment and difficulties for want of more sisters of the stamp they require. Applications may be made to this house for both public and private nurses. The Nightingale Fund trustees have also a training school for nurses. As soon as they are trained they are sent out, upon condition that they shall serve for five years as a nurse at an hospital or poorhouse, for further experience. The pupils are taught in King's College Hospital and in St Thomas's. The medical officers lecture to them, and the head nurses train them, under the superintendence of the matron. They learn how to arrange and manage the beds of patients under different circumstances, and suffering from different injuries and diseases; how to keep the most helpless and paralysed of sufferers quite clean; how to prevent sores, and how to dress them if they occur. They also learn as much as possible about cooking for the sick, how to feed patients, and how and when to give food and stimulants to those whose lives may possibly depend upon their regular and judicious administration. They are also taught how to move, lift, change, raise, or prop up, and how, in all ways, to husband the patient's strength; how to make or apply poultices, plaisters, fomentations, stupes, blisters, leeches, &c.; and, above all, to consider it a part of their duty to be ready with an account for the doctor of how the patient's medicine has acted, what he has taken in the way of food or stimulants, how he has been in a general way as to the state of the body and mind, how he has slept, &c., &c. Although nursing schools are being instituted all over the country, the demand for good trained nurses at present far exceeds the supply; we therefore most heartily wish success to all such undertakings. See article "Cookery for the Sick," "Child," and "Management of the Sick-room," in the Appendix.

OXYGEN WATER.—This water owes its medicinal properties to the fact that it contains a large amount of free oxygen gas in solution. An Oxygenated Water Company has been originated for its production, and it has met with a good deal of patronage, both at the hands of the medical profession and of the public at large. The amount of gas contained in the water is said to be about 13·5 cubic inches to each imperial pint, equal to 4·6 grains of gaseous oxygen by weight. Chlorate of potash is a remedy frequently prescribed by medical men, with the view of supplying oxygen to the blood. Now one pint bottle of this oxygen water contains as much of the gas as would be obtained from a dose of chlorate of potash equal to 21·4 grains.

Oxygenated water is a very pure, wholesome, and useful beverage, and is found to be a gentle stimulant to the functional action of the stomach, and the secretory organs generally. It is given in cases of indigestion, with loss of tone, feebleness, and irritability of the stomach, with tendency to nausea and sickness. It is also of value in cases of pulmonary consumption, and of diseases of the lungs and respiratory system, connected, or accompanied with deficient aeration of the blood.

OZONE.—During the last few years scientific men have speculated curiously as to the influence of ozone upon the health of mankind, and many ingenious instruments, called ozonometers, have been devised to determine the quantity of it present in the atmosphere which we breathe, under various conditions. It may, however, be truly said that, as yet, we know nothing definite with regard to it, although the most careful investigations have been conducted with a view to determine, if possible, its relation, if any, to the health of our large towns, or whether having any, and if so, what influence in favouring or producing the occurrence of the different epidemic diseases by which we are from time to time assailed. Ozone is believed, by the best observers, to be oxygen in a peculiar state, or, to express it in chemical language, an allotropic form of oxygen, just as the diamond and plumbago may be said to be allotropic forms of carbon. It derives its name from the Greek word, signifying a smell. It is given in medical practice in combination with other remedies, as, for instance, with cod liver oil. Ozonized cod liver oil has been extensively tried at the Brompton Hospital for consumption, owing to the suggestion of Mr Dugald Campbell, chemist to that institution. It was ascertained that, when medicinally administered, it possessed the power of greatly reducing the frequency of the pulse, without in the least degree weakening the power of the patient—a property not found to be possessed by any other agent yet discovered—moreover, an unusual general improvement in health almost always accompanied the above. In many cases of consumption there is no more disagreeable feature than the high pulse, so that if, by administering this remedy, we succeed in lowering the pulse 20 beats per minute, and at the same time secure the general good effects of the cod liver oil, we are, no doubt, conferring all the benefit on our patient that can accrue from what is certainly the most efficient remedy that has ever been brought to bear upon our dire national plague of consumption.

PAREIRA is the dried root of the Cissampelos Pareira, or velvet leaf, a plant which grows in South America, and the West Indies.

The root is brown and wrinkled externally, and yellowish grey internally. It has a sweetish taste, with a bitter after taste. There are two preparations in the Brit. Pharmacopœia,—decoction, and liquid extract of Pareira. The dose of the former is half an ounce to two ounces, and of the latter 30 to 60 drops. It is a bitter tonic, but being in no way superior to other well-known bitter tonics, it is seldom or never used for this purpose. Its main use in medicine has been in chronic inflammation, or catarrh of the bladder, in which it has been thought to be of decided service, prescribed either alone, or in combination with acids or alkalis, according to the state of the urine. Chronic inflammation of the mucous lining of the bladder is a disease so difficult to overcome, especially in old people, or in those who have lived freely, and are exposed to cold weather, that the patient is generally willing to try anything which will relieve the irritation, and diminish the mucous discharge, but the case should, if possible, be put in the hands of a medical man who alone, from an examination of the urine, is able to prescribe the proper remedies, and watch their effect.

PARALYSIS, INFANTILE, or Children's Paralysis, is a subject which, of late years, has occupied the attention of physicians, and has been very ably described in a memoir by Dr Kennedy, published in the Dublin Quarterly Journal for November, 1861, and read before the Obstetrical Society of Dublin. It may be stated, as a rule, that paralysis occurring in a child is not nearly so severe and anxious a matter as when it happens to the adult, because daily observation proves that many cases occur among children which, in a short time, get perfectly well, being, in fact, cases of what is called reflex paralysis, or paralysis depending upon irritation of certain parts, which irritation is conveyed to the nervous centres by the nerves of these parts, and runs back again along other nerves to cause paralysis or convulsions, as the case may be, in the parts to which those nerves are distributed. Irritation of the bowels, from the retention of disordered secretions, or other noxious matters, may be followed by an attack of paralysis in the leg or arm. A dose of some active purge, with a little alterative medicine, will generally suffice to alter the state of the bowels, and the paralysis quickly yields to simple means, as the cold douche, with rubbing, and, perhaps, the application of gentle galvanism. Of course all cases of paralysis ought at once to be put under the care of a medical man, the fact being borne in mind that cases of infantile paralysis do occur as well as cases of St. Vitus' Dance, and of convulsions, the cause of which is to be sought for in some external irritation. Amongst the different causes of this form of infantile paralysis that have been enumerated we may mention cold—from the child sitting or lying upon damp grass—local inflammation of any kind, the irritation of teething, the presence of worms, or of concretions in the bowels, violent cough, as in hooping cough, &c., &c.

It is well to bear in mind that palsy, of a limb or limbs, may arise from the above-mentioned causes, as it has not unfrequently happened that it has been ascribed to a fall or blow, and the nurse, although quite innocent in this respect, has been accused of culpable carelessness.

The presence of tubercles on the brain, or its membranes, and diseases of the spine, give rise to forms of paralysis which, if not incurable, are of the most serious import, and altogether different from the maladies described above.

PEPSIN, OR PEPSINE.—There are two kinds of pepsin at present used by medical men, that prepared from the mucous membrane of the stomach of the calf, and that obtained from the pig's stomach (Pepsina Porci).

The latter is said to be 4 or 5 times stronger than the former, and is prepared according to a very good process by Mr Bullock. The dose of it is from 2 to 5 grains given with a meal. The powder, which is grayish white, and possessed of an odour somewhat resembling baked flour, may be given between two thin slices of bread and butter, or in any other way agreeable to the taste of the patient. It may be dissolved in a glass of sherry wine, if preferred, and recommended to be taken in that way. Pepsine wine is to be had at all the principal chemists. The pepsin derived from the calf's stomach is not so highly coloured as the other, and is not so strong. Its dose, therefore, may be said to be about 15 grains, and it may be given in the same way as recommended above. It has rather an acid and disagreeable taste and odour. Both kinds of pepsin are very valuable remedies in cases of indigestion, connected with loss of power and tone of the stomach, and have proved of peculiar service in cases of pulmonary consumption where sickness and want of digestive power were the prevailing symptoms. Pepsin may also be given where there is imperfect digestion from organic disease of the stomach, but this, of course, would be only under the direction of medical advice.

The method of preparing pepsin is as follows:—The stomach of the calf, or pig, is well washed, and then divested of its mucous membrane, which is left for a time to digest in distilled water.

The water is then filtered, and sugar of lead is added, which throws down to the bottom of the vessel a precipitate consisting of pepsine in combination with lead. This compound is again treated with sulphureted hydrogen gas, which combines with the lead, and leaves pepsin in solution. The solution is then evaporated, and the gummy mass which is left is mixed with a little starch, and constitutes the pepsine of commerce, as prepared by Boudalt. That prepared from the stomach of the pig by Bullock is obtained without the employment of lead in the process.

It is not very easy to explain the undoubtedly wonderful digestive power of pepsin, seeing that *out of the stomach* it is only able to dissolve a comparatively small amount of matters used as food. We must conclude that *in the stomach* it acts in some way as a ferment; that it has, to use scientific language, catalytic powers, that is, the power or property of resolving other bodies into new compounds, and so rendering them more easy of digestion and assimilation.

PHARMACOPŒIA, BRITISH.—The inconvenience, confusion, and indeed danger of having three different pharmacopœias for England, Scotland, and Ireland, had long been felt by medical men, as well as by many of the general public, and it had for many years been thought desirable that they should be amalgamated into one, the use of which, and of which alone, should be rendered compulsory in Great Britain, and Ireland.

Accordingly, in 1864, after many tedious delays, the British Pharmacopœia was published, under the direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to the Medical Act of 1858, which enacts, section 54:—"The General Council shall cause to be published, under their direction, a book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto, as the General Council shall think fit, to be called 'British Pharmacopœia,' and the General Council shall cause to be altered, amended, and republished such Pharmacopœia as often as they shall deem it necessary." That this was no easy undertaking may be seen from the following quotation from the preface to the work. "To supersede three Pharmacopœias, each of them being held in great repute—to reconcile the varying usages in pharmacy and prescriptions of the people of three countries hitherto, in these respects, separate and independent—to consult the prepossessions of three important public professional bodies which have ruled long and ably over this branch of medicine—to represent accurately, yet with caution, the advancement made in chemistry and in pharmacy during the thirteen years which have elapsed since the last edition of any of the Pharmacopœias of the College of Physicians was published—has been no light task." A committee was appointed in each of the three divisions of the kingdom, whose duty it was to make extensive researches in chemistry, pharmacy, and natural history, and into the value of old and new remedies, and it can easily be conceived that there were great difficulties to be overcome, and that much time would necessarily be expended in carrying on these investigations by means of the somewhat complex and cumbrous machinery of a committee.

Amongst many of the most important changes, we may notice the following. The old troy weight is done away with, and the imperial substituted, so that the old symbols of scruple and drachm are

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Fucus Vesiculosus.
Granulated forms of medicine.
Hyponitrites of Potash or Soda.
Hydrocotyle, Syrup of.
Hypophosphites of lime, soda, &c.
Iron, effervescing forms of.
" Pyrosphosphate of.
" Lactate of.
Larch, tincture of.
Lithia, aerated water.
Magnesia, effervescing citrate of.
Magnesia, soluble forms of carbonate.
Manganese carbonate.
Pepsin, or pepsin wine.
Peroxide of hydrogen.
Quinidine, or its salts.
Sarracenia Purpurea.
Sumbul, or its preparations.
Triticum repens.
Veratrum viride.

For an account of some of the above medicines, see articles upon them in the Appendix.

The following list also shows a few of the most important additions which have been made—

Acid, Dilute Nitro-Hydrochloric.—Dose, 15 to 30 drops, useful in certain conditions of the urine, and in cases of indigestion with flatulence, also in cases with a tendency to the development of boils or small abscesses over the surface of the body.

Acid, Sulphurous.—A watery solution containing sulphurous acid gas. It is only for external use, and is best employed in the proportion of one part of the acid to eight parts of water. It destroys vegetable parasitic growths, as met with in diseases of the scalp, hair bulbs, skin, &c.

Aconitia.—The active principle of the aconite or monkshood. This is a very powerful preparation and only for external use, in the form of an ointment. The strength of the ointment is one grain of aconitia to one drachm of lard. The ointment is to be used in cases of severe neuralgic pain. It must not, of course, be applied where the skin is broken, and about 2) or 30 grains only of the ointment should be used at one time.

Ammonia, Benzoate of.—This remedy is recommended for certain chronic cases of bronchitis, with discharge of copious expectoration from the bronchial tubes. It may be given in the dose of from 10 grains to half a drachm, or even more.

Ammonia, Phosphate of.—This salt of ammonia is prescribed occasionally in cases of gout and rheumatism. Dose same as of the Benzoate.

Arnica, Tincture of.—Dose, 30 drops. Given internally, under the idea that it has some action upon the spinal cord—this is doubtful. It is either applied alone, or along with other liniments, to sprains, bruises, &c., but it is also doubtful if it has any action whatever upon these, beyond that of the spirit contained in the tincture.

Atropia, Ointment of.—See above remarks upon ointment of aconitia, to which it is similar in strength and action.

Bael, Indian.—This is a remedy likely to prove of great value in the treatment of severe and intractable cases of diarrhœa and dysentery. The fluid extract is the best preparation. Dose, half a drachm to one ounce. A jelly is also to be had made from the fruit of the Indian Bael, but this has no place in the Pharmacopœia.

Bebeerine, Sulphate of.—A bitter tonic made from the bark of the greenheart tree, which has been for years used as a substitute for quinine, in cases where that drug was not well borne. Its dose is about the same as that of quinine.

Charcoal.—In the form of bone black or ivory black, which is superior in absorbent power, to all kinds of charcoal made from wood, and is very useful in making poultices to be applied to gangrenous and foul sores, as well as for disinfectant purposes generally.—(See Appendix, article Disinfectants.)

Condy's Fluid, (See Appendix), articles Disinfectants, Foul breath.

Gall, Purified Ox.—The gall is purified by means of spirit, and then evaporated. Dose, 2 to 10 grains. Given in cases of indigestion, accompanied by deficient excretion of bile, shown by the pale colour of the evacuations. It may be given in pill, or made up in the form of capsules (gelatine).

Iron, Arseniate of.—This remedy is valuable, inasmuch as it combines the action of iron and arsenic. It is used in chronic skin diseases, but should not be prescribed but by a medical man.

Iron and Quinine, Citrate of.—This salt has for several years been one of the most fashionable and generally used of tonics. The dose is from 5 to 10 grains. It is certainly one of the most valuable remedies we possess, and is to be given in cases where it is desirable to obtain the combined effects of iron and quinine.

Iron, Phosphate of.—A bluish powder. Promises to be one of our most valuable chalybeate tonics, especially in cases of disease of the bones in youth, and in debility connected with the scrofulous constitution. Syrup of the phosphate of iron is also admitted into the Pharmacopœia. This is a very agreeable, and, at the same time, important preparation. Dose, 1 to 2 drachms, and given in the same class of cases as the above.

Kamela.—A red powder obtained from the seeds of the rottlera tinctoria, which belongs to the same natural family as the castor oil plant. One drachm of the powder given in treacle, or orange electuary, is one of the very best known remedies for tape-worm. It should be given fasting—the bowels having been previously cleared by a dose of castor oil.

Liniment of Aconite.—Although called a liniment, this contains neither oil nor soap, and is as different as possible from the liniment of the old Pharmacopœias. It is, in fact, a very strong and powerful alcoholic solution of aconite with camphor, It is not to be "rubbed in" like an ordinary liniment, but is to be applied by a camel's hair pencil in situations where there is severe nervous or neuralgic pain, as tic douloureux, &c. About 20 to 30 drops may be used in this way at a time.—N.B.—*It must not be applied where the skin is broken.*

Liniment of Belladonna.—The same remarks apply to this preparation as to the one above.

Liniment of Chloroform.—This is made with equal parts of chloroform and camphor liniment. It is a useful application in cases of old-standing rheumatic and nervous pain; also, in cases of chest affection, as a stimulating embrocation. It must, however, be used in small quantity and cautiously, as it sometimes causes great irritation of the skin and the parts to which it is applied.

Liniment of Iodine.—This is an important preparation, similar to what is commonly used by many practitioners as iodine paint. It is used to paint over the surface of the skin as a counter irritant, in cases of consumption, or of chronic chest affection from various causes. It is also an excellent application to many forms of swollen and diseased joints, especially those accompanied by rheumatic or gouty deposits. Care must be taken not to paint on so much as to break the skin. The pain produced immediately after its application passes off generally in a few minutes, or quarter of an hour at most. The name of liniment, when applied to this preparation, seems as strange to old notions as when applied to the preparations of aconite and belladonna.—See above.

Liniment, Acetic of Turpentine.—This is powerfully stimulating, and may also be used as a counter irritant. It contains equal parts of turpentine, camphor liniment, and strong acetic acid. It must be used with caution when applied to a large surface—as to the chest, for instance.

Soda, Hyposulphite of.—This preparation, like the solution of sulphurous acid gas spoken of above, is introduced on account of its power of destroying vegetable parasitic growths, either in the interior or on the surface of the body. Some diseases of the stomach are now well ascertained, by means of microscopic examination, to depend upon the presence of minute parasitic vegetable structures resembling mould or fungi. This salt has been used most successfully in such cases. Dose, 10 to 15 grains three times a-day. Sulphurous acid gas is given off in the stomach, and kills the parasite.

Solution of Atropia.—This is used for the purpose of dilating the pupil of the eye, but should never be employed by any one but a professional man. Atropia is the active principle of the belladonna, or deadly night-shade. Its action on the pupil of the eye is exactly the opposite to that of the Calabar bean. The latter contracts the pupil, so that, by the use of these two agents, we are now enabled to contract or dilate the pupil of the eye at pleasure—a most important step in advance in the scientific treatment of diseases of the eye.

Solution of Saccharated Lime.—This preparation, or one analogous to it, was brought into notice some years ago by Dr Cleland, and is now admitted into the new Pharmacopœia. It contains twelve times as much lime as lime water, and is much more agreeable to the taste. 15 drops to 2 drachms may be given three times a-day in milk.

Solution of Strychnia.—This should never be given by non-professional hands. Two drops contain one-thirtieth, and seven drops contain one-eighth of a grain of strychnia. The latter is a large dose. This is a most dangerous remedy, and ought only to be given under the watchful eye of a skilful medical man.

Lithia, Carbonate & Citrate of.—These salts of lithia are very useful in the treatment of gout. Dose of each, 10 to 12 grains in water, three times a-day, or oftener. They are to be had (though not in the Pharmocopœia) in effervescing forms. Lithia water is now much used also as a substitute for soda and potash water, in cases of gout.

Oil of Male Fern.—This is perhaps the very best of all known remedies for tapeworm. The male fern grows in great abundance in all our hedgerows, and is familiar to every one as among the most beautiful of our indigenous plants. The dose of the oil is one drachm for an adult. The writer has prescribed it very largely, and with invariable success. He is accustomed to issue the following practical directions to the patient with each draught:—"You must live a day without solid food, and take a table-spoonful of castor-oil at night. Take this draught early next morning. If you are not purged by the draught in twelve hours after, take another dose of castor oil."

Podophylline.—See special article in Appendix.

Potash, Citrate of.—This is probably more agreeable to the taste than any of the other salts of potash.

Potassium, Bromide of.—This salt has enjoyed rather a fashionable reputation of late years, on account of its action, real or supposed, in "discussing" fibroid tumours of the uterus, according to Dr Simpson. It is present in many mineral waters, and specially in the waters of Kreuznach. Bromide of potassium is also said to be of great service in cases of epilepsy, especially those connected with derangement of the menstrual or sexual functions. The dose is from three to six grains, and some even give larger doses.

Santonine.—See special article in Appendix.

Suppositories of Tannic Acid and of Morphia very deservedly find a place in the Pharmacopœia. They (especially the latter) are invaluable in cases of obstinate diarrhœa and dysentery, and ought to be more generally employed.

Troches, or Lozenges of Tannic Acid, of Bismuth, and of Catechu, have been admitted, and are likely to come into general use. Those of tannic acid and of catechu will be found useful in cases where an astringent is required, as in blood-spitting, profuse expectoration, relaxed throat, &c.; while bismuth lozenges should be taken by those who suffer from indigestion, accompanied by that affection popularly known as "Water-brash."

Veratria, Ointment of.—See remarks upon ointment of aconitia, to which it is similar in strength and action.

The following may be given as an example of a few of the changes which have been made in articles, the names of which are familiar to every one, and which are in every-day use:—

Æther, Chloric—Now called Spirit of Chloroform.

Æther, Sulphuric—Now called Spirit of Ether.

Aromatic Confection—Omitted.

Ginger, Tincture of—Twice the former strength.

Ipecacuanha, Wine of—One-fifth weaker than the old ipecacuanha wine.

Lettuce and its Preparations—Omitted.

Peppermint Water—Three-fourths of old strength.

Rhubarb, Tincture of—Ingredients changed, so as to alter entirely the taste and flavour.

Sal Volatile—Made more aromatic and agreeable. Does not become milky when mixed with water, like the old preparation.

Senna, Syrup of—Four times stronger than formerly.

Spirit of Mindererus, or Solution of Acetate of Ammonia—Six times the strength of the old preparation.

Squills, Oxymel of—Omitted.

Sulphur, Compound Ointment of—Omitted.

Tolu, Tincture of—Twice the former strength.

PODOPHYLLINE is a pale greenish brown resinous powder obtained from the Podophyllum peltatum, or American May apple, which is well known in the United States, where it is sometimes called Mandrake.

The dose of podophylline is from one-sixth of a grain to half a grain, given in pill either alone, or in combination with other remedies, such as the compound colocynth pill mass, henbane, or some other corrective, to prevent the troublesome griping pain which sometimes accompanies its use. It acts somewhat like jalap, as a drastic purgative, and is thought to be of peculiar service in cases of congestion of the liver, or in cases where that organ is overloaded with bile. It may be combined with calomel, in order to produce smart purging, with a gentle flow of bile; or with cream of tartar, or bicarbonate of potash, in cases of dropsy.

Upon its first introduction to medical practice, it was thought that it would supersede all other ordinary purgatives, but it has not in any way realized the expectations that were formed in its favour, being somewhat uncertain and capricious in its action, and, above all, causing in some persons intolerable griping pain.

Podophylline is sometimes given along with ox gall, in cases where it is desired to promote the flow of bile, and to increase the action of the liver and bowels. The following prescription is recommended for use in such cases, and will probably be found of benefit:—Take of purified ox gall two grains; podophylline, half a grain; compound rhubarb pill mass, or powdered rhubarb, two grains. Mix. Pill, to be taken at bed-time, occasionally. N.B.—For some persons the dose of podophylline would require to be much smaller, perhaps one-fourth to one-six of a grain.

QUACKS ADVERTISING.—The *Lancet* has just published a list of the newspapers in England which insert advertisements of an indecent description, and while it is to be remarked that most of the respectable newspapers have abandoned the disgusting practice, it is still very much to be regretted that others should still continue to prostitute their columns, for the sake of gain, to advertisements which are inserted in order to entrap and prey upon unsuspecting youth and folly. It may be well for the victims of these ignorant freebooters to inform them that the money so audaciously demanded, and so innocently paid, has often been at once recovered from them upon the first application of a stout horsewhip, accompanied with a threat of exposure. If any one should be unfortunate enough to fall into their hands, be it known to him or to her that there is nothing to be hoped from them in the way of cure, or of good of any kind. Be done with them at once, at all risks. Do not pay any exorbitant demands, and if there is any difficulty, refer them at once to a lawyer, and there will be no further trouble with them.

It is high time for the legislature of the country to interfere, seeing that heads of families often complain that books and pamphlets of the most offensive and indecent description are handed in at their door, or sent by post, and fall into the hands of those whose young minds they are meant and intended to pollute. Nothing also is more common than the obtrusion of certain advertisements meant to catch the eye of young people at a time when the constitution is undergoing natural changes, and enumerating a whole host of symptoms, on reading which the victim immediately supposes that he is the subject of some horrible disease, whereas a consultation with his family medical attendant would have at once procured him ease of mind and body.

The quacks are not so much to blame as the British public, which fosters and cherishes them; but if the public only knew the dreadful cases that daily come under the notice of medical men, cases where the maltreatment of quacks has produced deadly disease, they would be more chary in employing men who have nothing to recommend them to confidence but their own unblushing impudence and assertion.

The sum expended by the public of Great Britain upon advertised drugs and nostrums of various kinds has been calculated at not less than from five to seven hundred thousand pounds per annum. Upwards of forty thousand pounds are paid annually into the revenue for stamps to enable the vendors to dispose of quack medicines, and it has been affirmed that one notorious vendor of a quack nostrum spends no less than thirty thousand pounds per annum in advertising it to the public. A writer on this subject very justly observes—"Were all patent medicines submitted to a board of censors competent to examine them before the stamps were issued, the public might be preserved in some degree from decidedly injurious drugs."

St John Long, the great impostor, was a painter from Cork, who professed to be able to draw "Morbific matter" from the body. At his trial for manslaughter he was found to be completely ignorant of everything, even allied to medicine or surgery, though many noblemen, clergymen, and men of distinction came forward to swear to his great medical skill. One of these witnesses swore that he saw Long draw several pounds weight of a liquid, resembling mercury, from a patient's brain!

"Nervous Cordials," "Balm of Gilead," "Balm of Mecca," "Botanical Syrups," "Guides to Health," So and So's "specific" or "drops," are being everlastingly introduced to public notice, the intelligent public all the while forgetting that if any one of these remedies was once able to cure all diseases, as was stated by its advocates at the time of its introduction, it should not have been superseded by any new remedy. It is a curious fact that medicines of a secret nature are generally said to be the property of some would-be benefactor of his species—probably a retired physician or clergyman who is willing, before he has "shuffled off this mortal coil," to part with his grand secret for a few postage stamps.

The most wonderful instances are on record of bone setters and cancer curers having made large fortunes by deluding the public, till they were found out, exposed, and forgotten. No class of quacks, probably, have been the cause of more immediate harm than the so-called curers of cancers, who generally profess to have discovered somewhere in the East, or elsewhere, a wonderful and certain cure. Their applications are either perfectly inert, and merely used as a means of dallying with the patient; or they consist of caustics of one sort or another, which only eat deeper into the wound, without eradicating the disease, and often cause speedy death, by opening into blood vessels. Their vaunted cures have not been cures of cancer at all; or, if so, have only been temporary or apparent cures, owing to the healing of a portion of skin over the cancerous wound.

The Government of this country, owing to an absurd and enthusiastic outcry as to the merits of a well known nostrum called Stephen's Specific, was induced to vote five thousand pounds for its purchase, but, after its publication, no one could be found foolish enough to use it. The French Government also were induced to give a fair trial to a so-called cancer curer's method, and allowed him to choose seventeen patients afflicted with cancer, and place them in the Government Hospital of La Charite for observation. He did so, and undertook to cure the whole in six months, but, alas! at the end of two months, seven were dead, and at the end of the six months all were dead but two, and those two were reported dying.

But advertising goes a step further than recommending favourite remedies in the shape of medicines, elixirs, tractors, tar waters, Quin quinas, or life pills, at one shilling and three halfpence a box! for most of the papers now inform us that we require "no more pills, or any other medicine," but that all manner of diseases may be cured by the use of some compound closely resembling pease flour, and, no doubt, equally efficacious in all respects. Surely the monstrous absurdity of such statements ought to be sufficient protection against their being believed and acted upon.

RASPBERRY ACID.—Put 6 lbs. of raspberries into an earthenware pan, and pour over them 2 quarts of spring water, previously acidulated with 2½ oz. of tartaric acid. Let them remain twenty-four hours—and not more, or they begin to ferment—then drain them, taking care not to bruise the fruit. To each pint of clear liquor add 1½ lb. of lump-sugar, which melts easier and quicker for not being pounded. Stir it frequently. When quite dissolved, bottle the syrup. The whole process to be done cold. This quantity of fruit will fill two wine quart bottles. This recipe answers equally well for black currants, strawberries, or red currants.

SANTONINE.—This is a white resinous crystalline powder, obtained from the Artemisia Santonica. It is an infallible remedy for "round worms," that is, for the long round worms, like earth worms in shape, which are so commonly met with, especially in children in certain localities. The dose of santonine is from two to six grains. It is tasteless, and may be taken in milk, or between thin slices of bread and butter. It should be given when the patient is fasting. Three doses may be administered at intervals of twelve hours. The powder may be mixed or made up with an equal quantity of sugar of milk, or it may be given alone as above.

Nothing could be more certain than its action in killing or poisoning this kind of worm. Patients complain that, after having taken a few doses of the drug, they see things of a green colour, and are much distressed, lest this state of things should continue permanent. It never does so. The urine is tinged of a citron yellow colour, and stains the linen. Amongst many other cases, the writer prescribed small doses of santonine to two children, in a village where these round worms were very common. At the second dose, the two children passed no fewer than 92 of these loathsome parasites. Altogether we must look upon santonine as one of the most valuable additions which late years have made to our list of medicines, inasmuch as, by so effectually and speedily getting rid of these troublesome creatures, we are often enabled to cure patients of fits, and other affections, of which these worms have been the perhaps unsuspected cause. Moreover, the worms are dangerous in themselves, as they have been found perforating the walls of the bowels, and so causing death. Their effect, too, upon the general health of children, as well as adults, is oftentimes most pernicious. Patients troubled with them complain of pain in the region a little below and to the right of the stomach (i.e., in the bowel next to the stomach) of sickness, and often of a peculiar sensation of "rising in the throat," with sickness, and tendency to vomit. Sometimes, probably, owing to the effect on the sympathetic nervous system from the violent movements of the worm within the economy, fainting fits, and other nervous seizures occur at intervals. After a dose of purgative medicine, one or more worms are sometimes evacuated, in which case a dose of santonine should at once be taken. They are sometimes vomited also, but most frequently their presence remains undetected, till the continuance of such symptoms as those noted above induces a medical man to suspect their existence, and he prescribes for them accordingly. Refer to article Absinthe, in the Appendix.

The following prescription may be made use of by an adult, and for a child, one half or less may be given:—Take of santonine eight grains; sugar, or sugar of milk, fifteen grains; mix, and divide into three powders. One powder to be taken every night, till the three are finished. A dose of castor oil, or some simple aperient, is generally necessary afterwards, but it need not be given unless required.

SARCINAE VENTRICULI.—"Sarcina vomiting" is the name given by physicians to a peculiar condition, accompanied with dilatation of the stomach, with sickness and vomiting, generally of a large quantity of acid frothy fluid, in which are discovered, by the microscope, numerous vegetable parasites, named as above. They are very often found accompanied with the yeast fungus—*Torulae cerevisii.* They were first noticed and described by Professor Goodsir, who gave them the name of the "woolpack parasite," owing to the appearance which they present under the microscope. They are met with in organic disease of the stomach, which causes the food to be long detained in that organ, and hence to undergo a sort of fermentation. They are also developed in the stomach, owing to the use of improper food, and in the course of various forms of indigestion, accompanied with acidity. The treatment proper can only be undertaken by a medical man. It consists in the administration of remedies which kill or destroy the vegetable growth, such as the sulphite of soda. The patient's diet is also regulated, and it is recommended that unfermented should be substituted for the ordinary bread.

The occurrence of sarcinae without organic disease of the stomach is most frequently met with in those who live almost entirely upon vegetable food, and the affection is consequently most common in some parts of Scotland and Ireland. The accompanying indigestion is sometimes the cause of the most intense hypochondriasis, and even suicidal melancholy.

SCALP WOUNDS, Dressing of.—A method of treating scalp wounds has been lately revived in the surgical practice of the American army, which certainly has simplicity as its recommendation. It consists of the union, by plaiting or braiding, of strands of the patient's own hair across the line of the wound or incision. This method is said to be highly successful, and is much more simple than the old method of shaving, stitching, and plaistering scalp wounds, while in the case of females especially, it has the advantage of preserving the hair, and causing little or no disfigurement. The writer has tried this method in several cases, and has never failed to secure union by the first intention.

SINAPINE TISSUE, or Mustard Paper.—In this article we have a most convenient, elegant, and efficient addition to our means of treatment. The mustard paper, made by Mr Cooper, of Abingdon Terrace, Kensington, and introduced by him to the notice of the profession, acts very quickly and energetically, in the same way as a mustard poultice, without the disagreeables attendant upon that clammy and uncomfortable application, and it seems to leave less mark afterwards. From its energetic action, the time of application is necessarily shorter than when the old form of mustard poultice is used. There are, of course, cases and circumstances, however, when the old poultice may be preferable.

SMOKING.—Dr Richardson states that all the evils of smoking are functional in character, and no confirmed smoker can ever be said, so long as he indulges in the habit, to be well; it does not follow, however, that he is becoming the subject of an organic or fatal disease because he smokes. Smoking produces disturbances (*a*) in the blood, causing undue fluidity, and change in the red corpuscles; (*b*), on the stomach, giving rise to debility, nausea, and in extreme cases, sickness; (*c*), on the heart, producing debility of that organ, and irregular action; (*d*), on the organs of sense, causing in the extreme degree dilatation of the pupils of the eye, confusion of vision, bright lines, luminous or cobweb specks, and long retention of images on the retina, with other and analogous symptoms affecting the ear—viz., inability clearly to define sounds, and the annoyance of a sharp ringing sound, like a whistle or a bell; (*e*), on the brain, suspending the waste of that organ, and oppressing it if it be duly nourished, but soothing it if it be exhausted; (*f*), on the nervous filaments and sympathetic or organic nerves, leading to deficient power in them, and to over secretion in those surfaces—glands—over which the nerves exert a controlling force; (*g*), on the mucous membrane of the mouth, causing enlargment and soreness of the tonsils—smoker's sore throat—redness, dryness, and occasional peeling of the membrane, and either unnatural firmness and contraction, or spunginess of the gums; (*h*). on the bronchial surface of the lungs when that is already irritable, sustaining the irritation, and increasing the cough. Dr Richardson further points out, that as the human body is maintained alive and in full vigour by its capacity, within well-defined limits, to absorb and apply oxygen; as the process of oxydation is most active and most required in those periods of life when the structures of the body are attaining their full development; and, as noticed, tobacco smoke possesses the power of arresting such oxydation, the habit of smoking is most deleterious in youth, producing impairment of growth, deficient development, and premature dying.—*Lancet, 22nd October*, 1864.

SUMBUL is a stimulant, anti-hysteric remedy, lately introduced into practice. The tincture has a powerful, pungent, musky odour, and a bitter aromatic taste. When added to water, the mixture becomes milky in appearance.

Dose, half a drachm to a drachm in water.

This remedy was introduced into practice by Dr Granville, in 1850.

The author has administered sumbul in combination with opium, in cases of hysterical nervous excitement with sleeplessness, and has found it act extremely well in allaying the irritable condition of such nervous patients.

SUNSTROKE. Coup de Soleil, Insolation and Heat Apoplexy, are all names given to what is best known in this country under the name of Sunstroke, an affection of the nervous system very fatal to the European soldier in tropical climates, and induced by protracted exposure to heat in a rarified and ill-ventilated atmosphere, together with anything which prevents the proper amount of rest and sleep being taken. It has been observed that people of intemperate habits are much more likely to be attacked than others, and it is believed by the best authorities, that spirit rations ought entirely to be discontinued in India, and something else substituted more suitable to the climate, and more suitable in every way for the moral and physical well-being of the young soldier. Those whose general health is not good may be said to be predisposed to the disease, and ought on no account to undertake a fatiguing journey in India, or any other tropical climate, without every precaution; that is to say, an amply supply of good water should be provided, the best tents should be used, frequent halts in shady places should be made, and an efficient covering, such as a wetted towel, should be worn over the head, to protect it from the rays of the sun. Cold bathing, and exercise in the cool of the evening, are good preventive measures. Flannel should be worn next the skin, to prevent sudden chills, and the dress should be of a colour that does not readily absorb heat.

The affection comes on so insidiously, that it is often very difficult to say at the outset whether the patient is the subject of sunstroke or not. Headache is common, but not always present, while there is almost always a certain amount of giddiness. The skin is hot and dry, and there is marked prostration of strength. The pulse is quick, and sometimes full, but is more frequently so thin and feeble that it can scarcely be felt by the finger. The bowels are confined, and the urine so copious, that the patient has frequent calls to make water. After these symptoms have continued for some time, the breathing becomes rapid, the action of the heart tumultuous, and the patient may become suddenly, or, in some cases, gradually insensible. In this state the eyes are bloodshot, with contracted pupils, the face is pallid, and the surface of the body very hot and dry. Convulsions not unfrequently occur about this period of the disease, the patient soon passing, however, into complete stupor, in which he dies. The approach of death is heralded by intermittent pulse, irregular breathing, and just before death, by dilatation of the contracted pupils. Patients who recover are apt to be troubled by some affection of the nervous system, either in the form of temporary paralysis, convulsions, or some form of insanity more or less severe.

The greatest variability exists as to the duration of the disease. In some cases, where numbers of our troops were attacked, death took place generally in two or three hours after the attack, while, in other cases, a longer interval elapses.

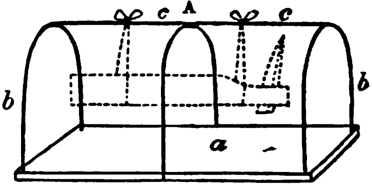
An examination of the brain and nervous centres after death does not throw much light upon the nature of this affection, seeing that the condition of these parts has been found to be very different in cases affected by the same symptoms. Congestion of the membranes of the brain, or effusion of serum at the base of the brain, are the true morbid phenomena most frequently met with.

In the treatment of this disease it is to be remembered that, as the patients usually die quite worn out, all depressing remedies are to be avoided; hence nothing could be more insane than to let blood in this affection. If the patient will bear it, the cold douche should be applied to the head, neck, and chest; if not, these parts should be sponged and bathed with cold water and vinegar. The hair should at once be cut short, a blister applied to the nape of the neck, or blistering fluid pencilled over it. Mustard poultices should be applied to the calves of the legs, and an injection given, containing two tablespoonfuls of turpentine, with the same quantity of castor oil in a pint of gruel. Good strong tea given frequently, with brandy and ammonia, according to the state of depression, are the remedies on which most reliance is to be placed, and if the patient is unable to swallow, these may be given by means of clysters.

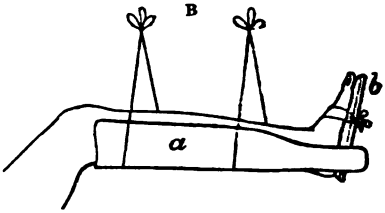
It is a curious fact that sunstroke is rare in mid ocean, though it occurs frequently in a narrow sea; it is rare also at great elevations,* and this is probably to be accounted for by the fact, that although the effect of the sun's rays is greater in such situations than elsewhere, yet the temperature is not correspondingly high. The occurrence of sunstroke has been ascribed by Drs Crawford and Barclay, to the effect of an atmosphere highly charged with electricity. The thermometer has been noted at 96° to 120° Fahr. in the shade, in the parts where sunstroke prevailed, such as Central India, Scinde, the Punjaub, and the Coromandel Coast. Dr Livingstone states that sunstroke is unknown in Africa in the interior.

Isolated cases occur in this country during the heat of summer, but they are generally met with in those who have been much exposed to depressing causes of other kinds. Intemperate persons, those who are recovering from illness, or those of a weak and excitable nervous temperament, are most likely to be attacked.

SWING SPLINT FOR FRACTURED LEG.—Should a person break a leg—that is, fracture the bone between the knee and ankle—in any ordinary situation, the probability is that there would be immediate requisition for the attendance of a regular surgeon, and that the accident would be treated by him in his own mode. But limbs may be broken far away from skilled assistance; and it is in such cases that the swing mode of treatment becomes the most valuable to the sufferer, and the most easy to the unprofessional attendant. The principle of the swing splint is a semicircular receptacle for the limb, proportioned of course to its size, which can be swung by means of bands of any sort to a cradle or framework, of which fig. A may be taken a sample; a being a board to which are fixed the iron rods, b, across which runs the piece of iron or wood, c, this forming a support from which the splint, fig. B, containing the leg, is hung.



Of course, this framework, fig. A, may be made of any material that may be at hand, such as green wood, or any other of which an ordinarily suggestive mind may avail itself. Likewise, the splint for the limb, fig. B, a, may be formed of rough slats of wood tacked together, or of a piece of bark, or, indeed, of any sufficiently firm material that can be formed into the splint, and be strong enough to bear a support for the foot, fig. B, b. This receptacle for the limb could be cushioned with dried leaves, moss, grass, or any soft material, and slung in its cradle, A, with pieces of cord, if nothing better presented itself. The apparatus being ready, the fractured limb should first be arranged as straightly and comfortably as possible in its splint, fig. B, a, and should then be slung in the cradle in the *mode and position most comfortable to the patient*. It is scarcely requisite to point out, even to the unprofessional person, how great must be the comfort and ease to a sufferer from fractured leg to have the injured limb placed in apparatus which yields to every movement like a well-springed carriage, even should the limb not be set in quite the best surgical mode. It does happen that sufferers from such accidents have to be taken long distances before they can reach professional aid. In such cases the swing splint, constructed by some intelligent person, upon the principles above enunciated, will be found of much value.



To recapitulate.—The principles of the apparatus are:—A semi-circular receptacle for the limb, padded with some soft material; a support for the foot, also padded; a cradle as above described, and swing supports—cords or such like—by which the splint is swung from the cross-bar of the cradle, see fig. A, B; a cavity formed or cut out of the splint where the heel rests.

TRICHINAE.—"THE NEW DISEASE."—The occurrence of some of the most dreadful accidents that have happened in the history of mankind, owing to the presence of a small microscopic worm in the muscles or flesh of certain animals used in human food, has lately directed much attention to the above subject, so much so that the word trichinae has become a sound of terror to many ears.

There is little room for doubt that cases of poisoning by means of these worms have taken place more or less frequently in times past, and that, not being understood by medical men or by the public, they have been called "anomalous or extraordinary cases." In some instances, also, the effects have probably been ascribed to poisoning from diseased meat; but the exact nature of the disease not being surmised, it has been vaguely ascribed to a "septic poison." The well-known cases of sausage poisoning, occurring so frequently on the continent, especially in various parts of Germany, were invariably attributed to this cause, though recent observations render it extremely probable that they were due to the presence of the small trichina worm in the meat of which the sausages were made, and which were not thoroughly cooked so as to destroy the parasite.

Lately a most terrible tragedy, caused by the above-named worm, occurred in a small town in Germany, and gave rise to a general feeling of alarm throughout the country, which spread in some degree to the rest of Europe, and indeed to the whole of the civilised world. Upwards of a hundred people sat down to a public banquet, and of these, no less than eighty died within a few days, and several more were severely and dangerously ill, owing to their having partaken of a sausage containing pork, which was ascertained, by microscopic examination, to be literally swarming with these minute worms.

The worm is called the Trichina spiralis, from its spiral form, being generally found coiled up in the muscles in a cork-screw shape. It can be distinctly seen by a microscope of low magnifying power; and, indeed, in certain states it can be seen by the naked eye as a minute speck studding the surface of the muscle containing it. When the worms are taken into the human stomach, they pierce through the coats of the stomach or intestines in their endeavours to find their way to the muscles, their natural habitat; and it may be easily imagined that their presence gives rise to symptoms of the most alarming nature, indicating not unfrequently inflammation of internal organs, which often ends fatally.

If the patient is enabled to survive this part of the process—viz., the boring through the stomach and bowels—the worms become embedded or encapsuled in his muscles, and either give rise to severe symptoms from their presence there, or else remain quietly at rest, causing no other disturbance, perhaps, than pains, cramp in the muscles, &c.

Many remedies have been proposed for patients affected with the trichina disease; but it is more than doubtful if any of them have had any effect whatever. Certainly any cases suspected to be of such a nature ought at once to be submitted to a medical man.

It becomes an important question what steps ought to be taken for the prevention of such tragical occurrences as that mentioned above. In the first place, it is obviously necessary to guard against the feeding of animals, such as pigs (which are the most frequently affected), with the flesh or intestines, &c., of any animals likely to have trichinae.

Secondly, it is imperatively necessary that there should be Government inspectors of meat appointed in all large towns, with powers to inspect meat offered for sale throughout the country generally.

Lastly, the greatest care ought to be exercised in the cooking of meat of all kinds, but especially of pork.

The following results are given of some experiments on this subject by Professor Virchow of Berlin:—

(1.) Trichinae are destroyed by the thorough salting of meat for a considerable time, and afterwards subjecting the sausages made from it to twenty-four hours' "*hot* smoking."

(2.) They were, however, not destroyed by a three days' "*cold* smoking;" and it also appears that, when meat is boiled, they are not killed.

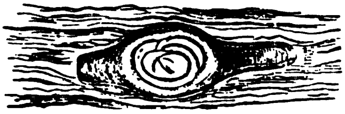
(3.) The trichina appears to be destroyed in "cold smoked" sausages which have been preserved for a considerable time; but this is somewhat doubtful.

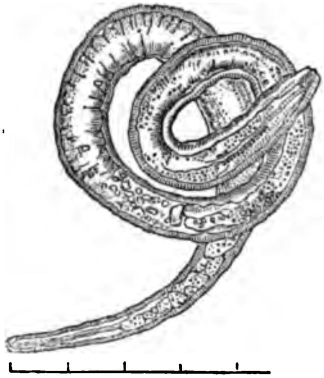
It will appear, from what has been already said, that this is a matter which not only the police but the public generally, and, in fact, each private individual for himself, should guard against, seeing that we do not know how soon accidents similar to the one above related might take place anywhere. No subject of the present day, perhaps, has assumed a greater importance than the occurrence of parasitic diseases; and we may confidently hope, that our knowledge of the causes, and of the means of cure, and, still better, of prevention, will be every day increased.

It is stated that, in Ireland, 2 per cent. at least of the pigs are diseased.

The small white specks formed by the capsules of trichinae disappear at once when they are touched with dilute hydrochloric acid. This is a very simple test. Trichinae which are not in their little shell-like capsules can only be seen by the microscope. An instrument should be used which magnifies 50 diameters. The part of the muscle next the tendon is said to be most often inhabited by the Trichinae.

The following figure, from Dr Aitken's "Practice of Medicine," shows the trichina lying coiled up in his cyst in the muscle; and the next shows him partially uncoiled, removed from the cyst and magnified :—





Quite recently a spirited discussion has taken place as to whom belongs the merit of the discovery of Trichinae in the human body. Dr Cobbold, who is a great authority on such subjects, has attempted to deprive our countrymen of the merit of the discovery of Trichinous disease. On the other hand, the curator of Guy's Museum in London states, that the oldest specimen in existence is now in his custody—that the first observations were made by our countryman, Hilton, and subsequently by Professor Owen, and he corroborates this statement by the reference to the monograph of Leuckart, the highest authority on the subject. Leuckart also states that it has been asserted that his countryman, Tiedmann, had already made the discovery, because he once found some white concretions in different parts of the body; but these, he says, had no resemblance whatever to the trichinae, and therefore the assertion is altogether incorrect. It is well known that in many various tissues of the body calcareous or chalky concretions of various sizes are to be found, and have been found by observers in all countries, so that it will be seen that, on such a flimsy foundation as this, the credit of prior discovery might be taken from our countrymen, not only by Germans, but by writers upon the subject in any other country.

WATER, Contamination of, by Sewage, &c.—The purity of the water supply to our large towns is one of the most important points to be considered in a hygienic point of view. But it not unfrequently happens that, although the general supply of water to a town may be of pretty good quality, certain parts of the town are supplied by local springs or wells. Now, these wells being situated for the most part in populous neighbourhoods, the water is rendered impure by soakage from drains, cesspits, dungheaps, sewers, graveyards, &c., or from the outlets of all manner of trade refuse. As a consequence, the inhabitants are liable to suffer from diarrhœa and dysentery, and such places are always more or less the fostering sources of typhoid fever, or cholera.

As a matter of course all such wells should be done away with, and the inhabitants should avail themselves of the ordinary water supply, if it be derived from a good and pure source.

Dr Gairdner, in a memorandum on Dr Anderson's report of the state of the water in the twelve wells in Glasgow, observes that the produce of two of the worst wells is highly relished by drinkers. "Nos. 9 and 10 must be condemned without reservation. In the case of the Bridgeton Well, indeed, it is perfectly obvious that the water is within the range of soakage of a great quantity of stable manure, as well as of a privy in the immediate neighbourhood. Yet, although these facts are quite notorious, or at all events can be ascertained without much difficulty, they do not hinder the water of this well from being extremely popular, and I am told that an attempt to remove the well some years ago was strongly resisted. Probably the peculiar flavouring of the water comes, by long habit, to be rather relished than otherwise; and I do not doubt that some of the drinkers consider this pump as superior to Loch Katrine."

The following table, taken from Dr Parkes' work on Practical Hygiene, shows the amount of organic matters or impurities in different kinds of water. It will be seen, from a consideration of it, how very successful the people of Glasgow have been in their praiseworthy attempt to obtain pure water from Loch Katrine; and, on the other hand, how very impure and utterly unfit for human consumption is the water of some of the wells of our large towns:—

Water—Place supplied to	Whence Derived, and Formation.	Amount of Organic Matters in Grains, per Gallon.
Glasgow, . . .	Loch Katrine—Primitive, .	0·82
Chatham, . . .	Chalk, ...	0·5
Liverpool, . . .	Millstone grit, brought by pipe 24 miles long to Liverpool,	1·21
Manchester, . . .	Millstone grit, red sandstone, and surface drainage, .	1·253
Watford, . . .	Chalk, ...	1·26
Farnham, . . .	Tertiary sands, . . .	1·78
Aberdeen, . . .	Primitive rocks, . . .	1·82
New River, . . .	Chalk chiefly, . . .	1·9 to 2·7
Thames—at Thames Ditton,	Chalk and clay districts, &c.,	2·29
" at London Bridge, (in 1861),	" " "	3·7
(in 1863),		
Some shallow London wells. (Letheby in 1861,) . .		
Bishopsgate Street,. .	Surface gravel, &c., lying over London clay, . . .	6·4
Aldgate, . . .	" " "	7·1
Bride Lane, . . .	" " "	8·0
Little Britain St, . .	" " "	8·2
Long Lane Market, .	" " "	2·1
Guildhall Buildings, .	" " "	2·
Glover's Lane Court, .	" " "	1·5
Chatham well water (1861),	Chalk, but impregnated with excreta, ...	5·
" " "	" " "	9·2
Brighton well water,* .		
Northern well (1862),	" " "	17·52
Southern well (1862),	" " "	8·32
Norwich well water, .	Near a Churchyard, . .	10·37†

* Dundas Thomson "Lancet," October 11, 1862. † Sutton.

WINE.—Although we are indebted to Mr Gladstone for the late reduction in the rate of duty on wine, still the fact remains that our old-fashioned wines, Port and Sherry, are very expensive, and the terms upon which they are exported from Spain and Portugal are practically as high as ever. It is impossible to obtain these wines of a genuine quality, except at a very high price, and it is well-known to those who are instructed on such subjects, that the miserable compounds often sold in this country under the name of Port and Sherry are advertised at a figure far below that at which they can be bought pure and genuine in their native country. The fact is, that the majority of these are "Hamburg Ports and Sherries," that is wines, or rather compounds or mixtures, for they do not deserve the name of wines, adulterated to a large extent with proof spirit. Very little of this so-called Port Wine, which is consumed in the United Kingdom, is imported from any wine-growing country; it is merely a compound made up largely of alcohol, to suit the taste of the British consumer, coloured with a preparation of elder berries, and a small amount of grape juice, but perfectly innocent of the genuine qualities of the juice of the grape of Oporto. Sherry (the so-called) is made up of various kinds of wines, so mixed, and incorporated, and evaporated, to increase their strength, that their original flavour is quite lost. Brandy or spirit is largely added; a proper colour is obtained by means of burnt sugar, and finally, a compound fiery and heady enough to suit the English market and the English taste is produced. Mr Shaw, in his work on Wine, the Vine, and the Cellar, thus speaks of the way in which spirit is added to Sherry in Spain:—

"One can no more drink, in Spain, the Sherry usually consumed in England, than they can, in Oporto, the usual English Port. About six gallons of spirits are put into a butt of Sherry after fermentation, and generally about four gallons more previous to its being shipped. It is almost quite pale at first. The very dark brown is made at St Lucar in the following manner:—Twenty or thirty gallons of must (unfermented juice) are put into an earthen vessel, and heated until not more than a fifth part remains, when it looks and tastes like treacle. This is turned into a cask containing more must, which causes it to ferment, and the result is a very full luscious wine, which, if originally good, becomes after many years invaluable for giving softness, richness, and colour to others. Large quantities of this product, when new, are used to colour, and to cover the harsh thinness of poor qualities. It is for this reason that it is called 'the Doctor;' and many a butt that comes to England, to be sold as 'curious old brown' at an immense price, has to thank the old boiled mosto stocks for its character."

Now, the above description may appear very bad to those who flatter themselves that they have been in the habit of drinking pure Sherry, but it must be remembered that much of the so-called Sherry has no Sherry in its composition at all, and is merely spirits altered and flavoured, so as to give it a resemblance to what is so universally used in England under the name.

The consequence of drinking wine into which this large quantity of alcohol enters is marked indisposition and depression—"reaction" next day, if any quantity be consumed. Such wines, even the best of them, must be looked upon as liqueurs, and they are practically used as such. Wine is not meant to be sipped but to be drank, and it is needless to remark that should the wines above described be "drank," in the true sense of the word, the result would be, with most persons, subsequent headache, depression, and indigestion. This result would not follow indulgence in a similar quantity of pure wine, the action of which is to restore to comfort, cheerfulness, and activity of body and mind those who are worn out by bodily or mental toil as well as to promote appetite and digestion.

Dr Druitt, of London, has published an admirable treatise (the substance of which appeared originally in the columns of the *Medical Times and Gazette*) upon the cheap wines of France, Greece, and Hungary. We confidently recommend this little work to all those who wish to think independently upon the subject, to escape from the thraldom of custom, prejudice, and acquired taste, to find out for themselves how to tell good wine, and to contrast the advantages offered by cheap pure wines over those which are adulterated and expensive.

Dr Druitt gives, amongst others, two simple and practical tests to be employed in the tasting of wine, even by those who are neither wine merchants nor professional connoisseurs, he says—

"In the first place, in drinking a good large sip of the wine, does it *primâ facie* strike us as being *one* liquid, or a compound of many? Wine should have an absolute *unity;* it should taste as one whole. True we may distinguish various properties on reflection, but they should be as parts of a whole, and not as independent units mixed together. But bad wine resembles a black draught; here a something sweet meets one part of our gustatory organs, there something sour, there something fruity, or bitter, or hot, or harsh, just as if half-a-dozen ill-blended liquids came out of one bottle.

"2. Wine should have a certain generosity of taste; unless spirit could be extracted by distillation, it would not be wine; but there should be no smell nor taste of added and ill-combined spirits, nor that heat about the throat which they cause."

Dr Druitt strongly advocates the use of well selected cheap pure wines, such as those of Greece and Hungary, not only as restorative, but as tonic beverages. He also advises that they should be given to weakly and delicate children, and to children who require stimulating treatment during the course of acute disease, in preference to Port and Sherry. An able writer in "All the Year Round," for June 24, 1865, in reviewing Dr Druitt's book, says:—

"It need hardly be said that the cheap wines now coming into common use are not cheap by reason of inferiority. They are actually superior, not only as pure wines, but for intrinsic commercial worth of material, to many Ports and Sherries sold at twice their price. We export raw spirit to re-import a considerable part of it from Portugal and Hamburg as Port and other wine. A fifth part of even a good bottle of Port consists of proof spirit, costing at the rate of about three-farthings a bottle; for the Portuguese buy the spirit they send back to us at the rate of two shillings the proof gallon, taking in one year a million and a half of gallons of spirits, and sending us back three-and-half million gallons of their wine. In all pure wines the natural proportion of proof spirit is usually from eighteen to twenty-two per cent.; many contain eighteen; some reach twenty-five or even twenty-seven; and, in rare cases, the proportion of proof spirit may even be thirty per cent. Port wine that has not been brandied for the English market contains twenty-three-and-a-half per cent. Port wine, as we get it, contains thirty-five or even forty-five per cent. of spirit, that will only blend in flavour with the natural wine after the costly process of long keeping, although one of its uses is to throw down the fermentable extractive, and give to the wine at once the appearance, without the flavour, of 'tawny old Port.' This sort of old Port is usually said to have been long in wood, lest people should look too curiously at the cork, or seek in the bottle for the crust of tartaric acid which is deposited in course of time, and leaves the wine mellower for its absence. Since the vine disease, really good Ports and Sherries have almost doubled in price; and at prices below five, six, or seven shillings a bottle they are factitious wines, incomparably worse than many a pure wine of France, Hungary, Austria, or Greece, of which a choice quality is to be had for half the money.

"For poor hard-working people who lead in-door lives,—teachers, milliners, dressmakers,—to whom even good beer (the best cheap drink for healthy folks who take active out-door exercise) is indigestible, there is food and medicine in a small dose of light pure wine. The white nervous tongue of the sickly dressmaker, who thirsts for tea that weakens further the deficient appetite, if she took in place of tea a little cheap pure Bordeaux wine, with an equal quantity of water, would recover healthy colour as her stomach regained tone and appetite, and her blood flowed in healthier current. It would be well for the town child between seven and ten years old, who flags in appetite, and is dainty with his meat, as children are allowed to flag in nurseries from which no comfort need be excluded, if the doctor's order answered to Dr Druitt's suggestion in such case. 'Give some kind of light, clean tasting, sub-acid wine—Rhine Bordeaux, Chablis, or some of the clean, dry wine of Greece and Hungary; let this be sipped freely at dinner, and then look to your mutton.'"

It is, perhaps, fair to state that the author is assured by wine merchants that there is a large quantity of inferior Port wine brought from districts, both in Spain and Portugal, where the higher class wines cannot be made, and that this Port constitutes a considerable proportion of the cheap wine now largely used in hospitals, and in Poor-law districts. It certainly seems to answer the purpose for which it is given in ordinary cases, and it is undoubtedly superior to much of the wine sold as genuine Oporto Port at the usual high prices. The faith reposed by the poor in the virtues of "Real Port," will for long make it difficult to satisfy them with lighter wines, such as those of France, Greece, Hungary, &c.

One of the great advantages of the Greek and Hungarian wines is, that they can be taken with benefit by those whose sedentary occupations and want of exercise prohibit them from the use of beer, while their cheapness (the price of the Greek wines ranging from 1s 4d to 2s 6d a bottle) puts them within the reach of those who cannot afford to drink first class Port and Sherry, even if they could get them for money. The Greek and Hungarian wines are even now cheaper than the most inferior growths of the French and Rhenish wines, and, of course, if they become as generally used as they deserve to be, the price would be much lower still. The talented and well known authoress, Frederika Bremer, in her recent work upon Greece and its Greeks, thus describes the Island of Santorin and its wines:—

"I have visited a great wine cellar excavated within the mountain, and have there tasted sixteen or eighteen different sorts of wine, all prepared from the grapes of Santorin. I was most pleased with the 'wine of Bacchus,' with the taste of nectar and colour of liquid gold; so also the 'wine of Night,' (St Elie,) which is colourless, and has obtained that name from the fact of the vintage taking place during the night, and from the grapes being hidden under the leaves of the vine, and not exposed to the influence of the sun, by which means the wine is not coloured by it. It has an agreeable acid flavour, like Rhine wine, only milder. The entire island is a vineyard, and the productiveness of its volcanic soil for wine has attracted thither a population which is now too large for the resources of the island. . . . .

"We ate a cheerful dinner at the Dimarch's, with compliments and toasts, which were drunk in nine different kinds of wine,—Bacchus wine, Santo wine, Night wine, Callista wine, and other kinds,—all good, but the wine of Bacchus, nevertheless, the best. . . . . There we found sent down for us a superabundance of good things,—grapes, apricots, figs, and large bottles of Callista wine, sweet, red, and thick, almost like a *liqueur*, and which is especially refreshing when mixed with water."

When one first essays a trial of the newly introduced Greek and Hungarian wines, the puzzle is in the *embarras de richesses* which to select, and for those who really wish to test them fairly, the better plan is to get a number of the different kinds and go over them fairly in the way of ordinary drinking, keeping notes. Those who do so will not find that it is always the most expensive that are the pleasantest. If personal experience might go for anything, the writer would certainly agree with what Miss Bremer says regarding the "St Elie," or Wine of Night—Resembling a very light dry Sherry, it seems a pure drinking and most wholesome wine; in strength and body, between the Sherry and the light wines of France and the Rhine. The Thera is a wine of somewhat similar character, but with more peculiarity of flavour, and therefore not so readily taken into favour by those unaccustomed to it. The same remark applies to Santorin, a red wine approaching Burgundy. The red Hymet, also of a Burgundy character, is liked by most. Another red wine, but more of a Claret, the Alderberger Ofner is well adapted for ordinary drinking, and Red Keffesia may be put in the same category. It is said to be much liked by, and found of service to consumptive patients. Of the white wines, the White Hymet, White Keffesia, Patras, and Hungarian Chablis are all good. It would, of course, be out of place here to go over the whole long list of Greek, Hungarian, and other wines, and those who desire more information will find it either in Dr Druitt's "Report on Cheap Wine," or in a small pamphlet published by Mr Denman, of Piccadilly. The author has mentioned only those of which he can speak from personal trial, and having recommended them somewhat largely, knows that they agree well with the majority of people. He quite coincides with Dr Druitt in the opinion that, when these wines come to be better known, they will form no inconsiderable amount of the wine consumed in Britain. In some ways, and for some persons, in the colder months of the year, they seem preferable to the lighter, and certainly more acid wines of France.

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ON THE MANAGEMENT

OF THE

SICK-ROOM.

BY W. ANDERSON, M.D., L.R.C.S., EDINBURGH.

IT is very much to be regretted that so much ignorance prevails in this country respecting the domestic management of the sick-room, and that this ignorance is chiefly displayed by those whose duty it is to watch over the sick-bed, and to carry out the directions of the medical adviser. It is believed by many people that, like the poet, the nurse must be born, not made, but this is only partially true, and every-day experience is teaching us that much can be done towards the training of efficient nurses for the use of private families who may require their services, and for our great public hospitals and charities. No doubt there are certain qualities of mind and disposition, without being possessed of which, no woman will ever become a nurse, in the best sense of the word; but, on the other hand, there are many women who may be made excellent nurses, and yet who would never become such without proper, simple, preliminary training. It is extremely difficult to put down the details of that training in black and white, and it is not too much to say that the training, to bear any good fruits at all, must be essentially a practical one, that is to say, that, in our opinion, every woman who aspires to be a first-rate nurse, should either be taught under a skilful teacher, or should cheerfully apprentice herself for a short time to some institution, where good nursing, and all its concomitants are systematically taught. If it be asked what inducement is there to make any one undergo so much arduous and, perhaps, repulsive labour, we can only reply, that we have been frequently the witnesses of the heart-rending sorrow exhibited by a wife, a mother, or a sister, who have found too late, when the melancholy occasion required it, that they were unable to undertake those duties which were required of them, and from very ignorance, were obliged to hand them over, it may be, to a cold, perhaps, cruel and mercenary hireling. Sanitary knowledge, and especially this department of it, is making immense strides, and acquiring fresh importance every day; and it is matter of congratulation to all classes of the community, that institutions having for their object the training of skilful nurses are becoming more frequent in all parts of the country.

CHOICE OF A SICK-ROOM.—With regard to the sick-room itself, it seems scarcely necessary to say that, when a choice can be made, it should always be large, lofty, quiet, and well-ventilated; and these remarks apply all the more forcibly to those cases in which the patient is suffering from contagious disease of any kind—more especially from typhus fever, small-pox, scarlet fever, or from any injury which is complicated by having a large discharging surface, or which may be foul, putrid, or even gangrenous. In the dwellings of the poor, these ends cannot always be attained; and moreover, it is sometimes desirable not to remove a patient from the room in which he may happen to be at the time of his illness, or which may be most convenient for him in the case of accident. If the patient must be, then, in a small room, this great disadvantage must be compensated for by attending, in every possible way, to the ventilation, both for the sake of the patient himself, for those who are in attendance upon him, for those who may come and go, and for those who live in the immediate neighbourhood; because such small rooms, when ill ventilated, become the *foci* from which disease spreads upon all sides, and, in various ways, may eventually lay hold upon all classes of the community. The poor in many places have a great objection to open windows; but it may be asserted that there is no danger whatever in opening the windows, if only care be taken to avoid draughts, and the occurrence of a chill upon the patient's surface. The following passage, quoted from the "Lectures on the Eruptive Fevers," by Dr George Gregory of London, shows the difference of practice which has taken place in this respect, as compared with that of former times:—"What think you," he says, "of a prince of the blood royal of England (John, the son of Edward the Second) being treated for small-pox by being put into a bed surrounded with red hangings, covered with red blankets and a red counterpane, gargling his throat with mulberry wine, and sucking the red juice of pomegranates? Yet this was the boasted prescription of John of Gaddesden, who took no small credit to himself for bringing his royal patient safely through the disease." Nowadays, of course, we think it very absurd to treat patients with infectious diseases in beds with any curtains at all. We never dream of increasing the temperature of the room, as was formerly done; we do not insist upon the patient being covered with any more blankets than he chooses; and we certainly are not so cruel or so blind as to refuse abundance of cooling drinks to the parched lips suffering from the maddening thirst of fever. The ventilation is, and has always been, a difficult question. In plain English, how are we to ventilate a room without causing draughts which may chill the patient, and cause him to take cold, or which may even light up inflammation of the lungs, bronchitis, or some other evil, in those who are already weakened by disease? Are we to ventilate by means of the window or windows, by artificial ventilators, or by the door and chimney? All experience teaches us that every sick-room should have an open chimney, and further, that ventilation can be only properly effected by open windows. Some open them from the top, some from the bottom, and some both at top and bottom, allowing the air to escape at one opening and to enter at the other. Now, this appears a very simple matter, and yet surprising how difficult it is to properly ventilate a room, and still more a ward, in this way, without the patients' complaining of draughts and chills. Again, many persons, especially in the lower ranks of life, are accustomed every night in their lives, to sleep in such close ill-ventilated rooms, surrounded, it may be, by their numerous families, and perhaps a few lodgers into the bargain, so that it is not to be wondered at if they very soon catch cold when suddenly treated for the first time, according to the modern and enlightened notions—so warmly advocated by Miss Nightingale—as to open windows and fresh air. The writer has found, after many trials, that the least injurious way of admitting fresh air to a room, by the ordinary window sash, is to open it from the bottom to the height of a few inches, more or less, according to the state of the wind, weather, &c. A wooden board is then to be placed against the lower part of the window, to prevent the wind blowing directly into the apartment, and in this way, the current of air is directed upward, and diffused over the entire surface of the room. All the devices at present in use for artificial ventilation, are more or less defective and imperfect, and have generally to be abandoned, for the simpler sort of expedients alluded to. The chimney-board or soot-board should never be put up, because, of course, when the window is closed, the room is almost entirely dependent on the chimney for ventilation. In cases where an open window in the room cannot be borne, it is often desirable to ventilate the room by means of air transmitted through an open window in the adjoining room or in the staircase, and here an open chimney is more than ever desirable.

In Miss Nightingale's "Notes on Nursing," the following excellent practical advice is given as to ventilation:—

"Always air your room, then, from the outside air if possible. Windows are made to open; doors are made to shut—a truth which seems extremely difficult of apprehension. I have seen a careful nurse airing her patient's room through the door, near to which were two gaslights (each of which consumes as much air as eleven men,) a kitchen, a corridor, the composition of the atmosphere in which consisted of gas, paint, foul air, never changed, full of effluvia, including a current of sewer air from an ill-placed sink, ascending in a continual stream by a well-staircase, and discharging themselves constantly into the patient's room. The window of the said room, if opened, was all that was desirable to air it. Every room must be aired from without—every passage from without; but the fewer passages there are in an hospital the better."

"In laying down the principle that the first object of the nurse must be, to keep the air breathed by her patient as pure as the air without, it must not be forgotten that everything in the room which can give off effluvia, besides the patient, evaporates itself into his air, and it follows, that there ought to be nothing in the room excepting him which can give off effluvia or moisture. Out of all damp towels, &c., which becomes dry in the room, the damp, of course, goes into the patient's air; yet this, 'of course,' seems as little thought of as if it were an obsolete fiction. How very seldom you see a nurse who acknowledges, by her practice, that nothing at all ought to be aired in the patient's room, that nothing at all ought to be cooked at the patient's fire! Indeed, the arrangements often make this rule impossible to observe."

The following extract is so extremely apposite to the subject, that its introduction requires no apology:—

"We know very well that among the general external causes for all those mischiefs, there are the crowding of patients into too limited a space; that is, into spaces where they have too limited a supply of air, uncleanliness—in a word, if I might sum it quickly—dirt of all kinds, within or without; and for internal conditions. we know very well that those patients are most prone to them who are, as we may believe, most unstable in their composition—namely, those whose tissues are disordered, either by defective food, or by intemperance, or by excess of animal food, or those who retain in their frames too large a quantity of refuse—matter not sufficiently excreted—as the gouty, and, above all, those that suffer with granular degeneration of the kidneys. We know well enough that in any of these the ordinary consequences of a surgical operation are sufficient to bring in that morbid condition of the blood which manifests itself in erysipelas, pyæmia, gangrene, or some other source of fatality. But my impression is, that there are yet some other causes to be sought for; for where even we may believe that all these are absent, yet these plagues come in. For example, I do not know that we can assign any one of these diseases to be a product solely of hospital practice. I must say for myself that I have never seen one of them more intense or more fatal than I had seen it in single cases, amongst the best and most well-ordered houses of the metropolis; certainly not one that I could mention which has been worse in St Bartholomew's Hospital, than I have seen it in a house, in a room, and under a charge, with which I could find no distinct fault. It may be said that, in hospitals, we can never altogether exclude the sources of foulness and infection. I am not prepared to say, I am only prepared to doubt, whether they may not exist also even in our best houses; whether our sanitary arrangements are anywhere so perfect as to shut out the sources of even the worst form of zymotic disease.

"I can only suspect that there are yet some things hidden. I cannot yet profess myself prepared to believe that there is no one of us living in such conditions of external health, but that after an operation, there is that lying at his bedside which will breed some dire calamity to him. But I would suggest here, not only to hospital practitioners, upon whom, most unjustly, as it seems to me, the whole burden of proof of these cases has been hitherto cast, but to those who practise also in private, that in every case where one of these diseases occurs, we should most conscientiously try, and that we should look for its source to the hospital or the private house, or the practice should be brought to a strict trial—a private trial, if you will—but a just and a true trial before our conscience; and if the hospital, or the house, or the practice be found faulty, let it be condemned, and at once amended. Another point I would suggest is, that it is not enough for us to study these things in their worst forms, in those in which they are deadly, for we can never know the true extent of a mischief if we know none but those whom it kills. If a patient barely escapes with his life, or even in the process after an operation he passes through any peril, even of the least, he may indicate as great a necessity for amendment of the conditions in which he has been placed as if he had died. This is true of erysipelas; and there is a thing to be considered, that, seeing how vast are the differences between the best and worst cases, it may be quite within our power to reduce the whole of the cases that do occur to the condition of the lowest peril.

"If I look back to the records of the many trials and many disappointments I have endured, I think there is but one thing that I have ever seen have such, as I should call fair remedial power, over pyæmia—that is a profusion of fresh air. The most remarkable recoveries from pyæmia—they are three—that I have seen, were those in which the patients may be said to have lain day and night in the wind. They lay with the wind blowing all round about them through the room. They so lay, that I have said that I wished they could hang our patients in beds outside of the hospital, rather than within the walls." *

TEMPERATURE OF THE SICK-ROOM.—In many diseases of the chest, as, for instance, inflammation of the lungs, the temperature of the room requires to be particularly attended to, because cold air not only increases the discomfort of the patient, but makes the cough worse, and aggravates the disease. Now it is not safe to trust to our own feelings as a guide by which the temperature of a sick-room can be regulated: therefore, a thermometer placed at a distance from the fire ought to be frequently consulted, and the temperature should be kept up to at least 60 degrees Fahrenheit. But whilst the room is kept warm, the bed-clothing of the patient must be regulated accordingly (and this requires particular attention in the case of children), since it would be extremely injudicious both to keep the room warm and to heap blankets upon the patient. Common sense will teach one that, in those diseases in which it is necessary that the patient should breathe a warm atmosphere, a cold room with abundance of bed-clothes would be hurtful, but that a warm air and a comparatively light covering to the bed, are what is required. However warm the room may be, or appear to be, the patient should always have a loose, warm dressing-gown at hand, to be put on when he leaves bed, so that perspiration may not be suddenly checked. It will thus be seen that attention requires to be paid, first, to the temperature of the air of the room, and secondly, to maintaining the temperature of the body by appropriate clothing. As a general rule, it must be remembered that infants and old persons require much more artificial external warmth than adults, especially when sick. New-born children are said to require a temperature of from 65 to 70 degrees Fahrenheit, and old people (with few exceptions) are said to require a still higher amount. Healthy, well-clad, and well-fed adults will bear a degree of cold five or ten degrees lower without any inconvenience; while some people seem to have an extraordinary power of adapting themselves to different temperatures. It is probable

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* Professor F. Paget.

that, in some acute diseases of a febrile character, attended by great heat of skin, a low temperature, with a current of cooling air passing over the body, is of decided advantage; and this would seem to be proved by the fact that cases of fever treated in tents during great epidemics have generally done well. Most medical men seem to be agreed that in convalescence from all kinds of diseases there is great susceptibility to, and intolerance of cold, so that it is often desirable to keep a convalescent at a higher temperature than when he was the subject of acute disease.

As to the different methods of heating the sick-room, there can be no doubt that the common radiant grate with an open chimney is by far the best and healthiest.

The influence exerted upon the condition of a patient by the temperature of his room, is well illustrated by the fact that patients have been brought from a condition of raving and delirium into a calm and collected state merely by the doctor's ordering the temperature of the room to be lowered five or ten degrees; while, on the other hand, violent fits of coughing, with difficulty of breathing, have been at once relieved by reversing the order.

The air of the sick-room, generally, should not be too dry; but in some special instances it is desirable that the patient should breathe a warm and moist atmosphere. This may be done very simply in a variety of ways. Perhaps the simplest of all is to allow the steam of a common kettle to diffuse itself throughout the room, or the common urn used for keeping boiling water for the tea-table may be employed. Stoves are very objectionable for the sick-room; but where they are used, special attention must be paid to keep the atmosphere moist.

FURNITURE OF THE SICK-ROOM.—It may not be out of place to say one word as to the furniture of the sick-room. It has been already said that the bed should not be surrounded by curtains, the old-fashioned four-poster, with the curtains drawn, is the very worst sort of bed for a case of fever, or infectious disease of any kind. French beds, without curtains, are to be met with in most houses, and are in many ways suitable, but iron bedsteads are probably best of all. It is also a point of great importance that the bed should not be too high, nor too wide, otherwise it is quite impossible for the nurse to perform those many offices which a sick-room requires. As a rule, hospital patients are better off in this respect than patients in private houses. Miss Nightingale recommends "Iron bedsteads, with rheocline springs which are permeable by the air up to the very mattress (no valance, of course), the mattress to be a thin hair one, the bed to be not above three and a-half feet wide. If the patient be entirely confined to his bed, there should be *two* such bedsteads, each bed to be 'made' with mattress, sheets, blankets, &c., complete—the patient to pass 12 hours in each bed, and on no account to carry his sheets with him. The whole of the bedding to be hung up to air for each intermediate 12 hours, of course, there are many cases where this cannot be done at all—many more where only an approach to it can be made. I am indicating the ideal of nursing, of what I have actually had done, but about the kind of bedstead there can be no doubt, whether there be one or two provided."

Thick coverlets of a close texture ought never to be used, because they retain the excretions of the patient. The bed-clothes ought to be frequently changed and aired. Water beds are invaluable for particular cases. In cases of long or confirmed illness, in which the patient is confined constantly to bed, a bed constructed upon high and noiseless wheels, which can be moved easily from room to room, has been found a great luxury in relieving the tedium of illness.

The reader is referred to the article "Bed" in the Appendix, for an account of the various beds and bed-lifts, for invalids, which are most to be recommended.

One simple article of furniture which has been found of great use in the sick-room, is a table so constructed that the leaf comes over the bed of the patient. He is thus enabled, on being propped up with an additional pillow or two, to take his meals with great comfort, and in an easy position, instead of in the usual awkward and constrained manner when it is attempted to take food from the bed-side.

Another of the most necessary and important articles is a night chair or commode. Great improvements have been made in the construction of these; and perhaps it is only necessary to mention that the lid should be either metallic or of porcelain—*not wooden*, and that there should be no seat or cushion above the lid which can retain the noxious exhalation from the pan below. Those made with a seat to the back, and supports to the arms, are decidedly the best, because patients requiring to use a night-chair are often in a state of the greatest debility, so much so that they dread getting up to it, and require to be supported while there.

A bed-pan, or, still better, a couple of bed-pans, ought to be always in readiness. The best are those made of strong porcelain or pewter, of a shovel shape, and as simple as possible in construction. It is well to know that in an emergency, or where a bed-pan cannot be readily obtained, a common deep plate answers the purpose admirably; and in point of fact, this can be used by some persons who cannot make use of the ordinary bed-pan.

On this subject Miss Nightingale, in the work already quoted, gives the following plain and excellent directions:—

"Of the fatal effects of the effluvia from the excreta, it would seem unnecessary to speak, were they not so constantly neglected. Concealing the utensils behind the valance to the bed seems all the precaution which is thought necessary for safety in private nursing. Did you but think for one moment of the atmosphere under that bed, the saturation of the under side of the mattress, with the warm evaporations, you would be startled and frightened too!

"The use of any chamber utensil *without a lid* should be utterly abolished, whether among sick or well. But never should the possession of this indispensable lid confirm you in the abominable practice of letting the chamber utensil remain in a patient's room unemptied except once in the 24 hours—*i.e.*, when the bed is made—yes, impossible as it may appear, I have known the best and most attentive nurses guilty of this; ay, and have known, too, a patient afflicted with severe diarrhœa for ten days, and the nurse (a very good one) not know of it, because the chamber utensil (one with a lid) was emptied only once in the 24 hours, and that by the housemaid who came in and made the patient's bed every evening. As well might you have a sewer under the room, or think that in a water-closet the plug need be pulled up but once a day. Also, take care that your *lid*, as well as your utensil, be always thoroughly rinsed.

"You can easily convince yourself of the necessity of this absolute rule, by taking one with a lid, and examining the under side of that lid. It will be found always covered, whenever the utensil is not emptied, by condensed offensive moisture. Where can that go when there is no lid?

"Earthenware, and, if there is any wood, highly polished and varnished wood, are the only materials fit for patients' utensils. The very lid of the old abominable close-stool is enough to breed a pestilence. It becomes saturated with offensive matter, which scouring is only wanted to bring out. I prefer an earthenware lid, as being always cleaner; but there are various good new-fashioned arrangements.

"A slop-pail should never be brought into a sick-room. It should be a rule invariable—rather more important in the private house than elsewhere—that the utensil should be carried directly to the water-closet, emptied there, rinsed there, and brought back. There should always be water and a cock in every water-closet for rinsing. But even if there is not, you must carry water there to rinse with. I have actually seen, in the private sick-room, the utensils emptied into the footpan, and put back unrinsed under the bed. I can hardly say which is most abominable—whether to do this, or to rinse the utensil *in* the sick-room. In the best hospitals, it is now a rule that no slop-pail shall ever be brought into the wards, but that the utensils shall be carried direct to be emptied and rinsed at the proper place. I would it were so in the private house."

Spitting pots should always be used, since nothing is more inconvenient than to raise a heavy chamber pot for the purpose of spitting into it, and yet it will scarcely be believed that, even amongst patients of the better class, spitting pots are very seldom used, until they are ordered by the doctor. They should be light, and made of white porcelain, so that the medical man may at once ascertain the nature of the expectoration; and, in order still further to facilitate this, no matches, pieces of paper, or fragments of orange peel, &c., should be put into them.

A medicine glass and medicine spoon will be found useful.

A tin stomach warmer, or one made of India-rubber, should be always at hand, so that warmth may be applied to any part of the patient's body at the shortest possible notice.

When it is necessary to provide for the dressing of a sore, the following articles should always be kept in readiness, upon a small table, appropriated to them, and to them alone, with the exception of the lotion or ointment, or other appliance, which may be used or ordered by the surgeon:—A couple of small basins, a small quantity of tow or cotton wool to bathe the sore, a quantity of clean linen rags cut into appropriate pieces, or of lint, a few bandages, some oiled-silk, or gutta-percha tissue, and some strapping or sticking plaster. These are articles which are being constantly wanted, and it is very provoking for the medical man to be obliged to send all over the house, first for the one, and then for the other, instead of having them all ready to his hand.

In another part of this work it has been strongly insisted upon, that no cooking of any kind whatsoever should be done in the sick-room; but a very elegant and very useful apparatus may be obtained, by means of which beef-tea, and the like, can be kept warm, so that the patient, on waking up, may be supplied with it hot. The apparatus consists of a cylinder of perforated metal, a night light is fitted into a glass at the bottom, and the vessel which is to contain the beef-tea, &c., is rested above it. The whole apparatus is very compact, and may be carried from place to place without risk of breaking. The vessel connected with this apparatus is sometimes fitted with a tube for the use of infants, or for invalids who are unable to sit up in bed; failing this, a feeder should always be used for such cases, that is to say, a vessel partially covered in at the top, with a spout or nozzle.

It seems almost superfluous to mention that an abundant supply both of hot and cold water ought always to be provided.

ATTENDANCE TO PATIENT.—How to wash, sponge, bathe, or otherwise *clean* the patient.

It is well known to experienced medical men and nurses, that patients are more grateful for being properly attended to in this way than perhaps any other, and it can be easily understood how great is the feeling of relief and comfort experienced by a patient, who has had removed from him the noxious and irritating excretions and exhalations of his body. The first point to attend to is, how sufficiently to cleanse the patient, without exposing him to a chill of the surface. A skilful nurse, even in a very bad case, can easily manage this without much trouble either to herself or to the patient. When it is desirable thoroughly to cleanse the skin, and at the same time to avoid all chance of chill, it will be necessary that the nurse should use a small basin, with moderately hot water, a piece of soft flannel or a sponge, with plenty of soap. Only a small portion, or a single limb, or part of a limb is to be washed at one time. The operation is to be quickly performed, the part speedily dried with a soft warm towel, and replaced within the bed-clothes. Care should be taken to have everything in readiness, and at hand, so that all may be speedily accomplished, and the patient not fatigued or chilled, by having to wait until the different articles are obtained. It is astonishing how very easily the patient may be kept clean by a little common-sense management in this way.

SPONGING.—In certain cases of fever and acute disease, it is frequently necessary to sponge the body over with tepid or cold water, in order to reduce its temperature, and allay irritation. Now, this requires to be very skilfully done, in order to have a good effect; a large soft sponge, or two or three small ones, just moistened sufficiently to prevent dripping should be passed quickly over the surface of the body, which should be quickly dried. If the patient is then as able to bear it, his night dress should be removed, and he should be laid upon a blanket on a sofa or bed, close to his own bed; the sponging should be rapidly and efficiently performed, and a clean night-shirt put on, and he should then be removed to his own bed, where he will experience a feeling of the greatest comfort and relief. This process may be repeated several times with benefit, where there is fever and heat of skin.

Sponging the body with vinegar and water has been found of decided value in checking the exhausting perspiration so distressing and so commonly met with in the course of consumption, and other chronic diseases. The sponging should be quickly done, especially over the chest, neck, arm-pits, and face, and between the shoulders, and the parts should be quickly and briskly dried with a soft absorbent towel. In certain cases of consumption, and in persons generally with delicate chests, great benefit is sometimes to be derived from sponging the chest, night and morning, with salt and water. A handful of salt should be used to a basin of water, the upper part of the chest and the armpits, should be well sponged, and the drying performed quickly, as before. If the process is properly and efficiently performed, no fear need be entertained of catching cold, even by the most delicate either in summer or winter; in fact, it is one of the best preventives of cold that we are acquainted with.

THE BATH.—The bath is a very useful piece of furniture for the sick-room, and the reader is referred to the different articles under this head, in the body of the work and in the Appendix, for useful information on the subject. When it is desired to administer a bath to a patient who is confined to bed, the bath ought to be brought alongside of the bed, so that the patient may be moved into it and out of it, as quickly as possible. This is particularly requisite in cases where it is desired to make use of the relaxing and sedative effect of a warm bath to relieve stoppage of the water or strangulation of the bowels, in rupture, or where it is desirable, as it sometimes is, to administer an injection in the warm bath, in some cases of stoppage of the bowels.

The shower bath must be taken by sick people with great caution, and scarcely comes under the head of the sick room furniture. It is, however, one of the best means we possess, as a bracing tonic in certain cases of disease, and especially in the nervous affections of children. A conical cap, such as that recommended by Dr Jephson of Leamington, should be worn, when it is not desired to wet the hair of the head. The water may be used tepid, if cold water produces too much shock, or the hand shower bath, mentioned in the Appendix, will be found a useful and convenient modification, especially for children. Many persons are not aware of the extremely pleasing effect produced by a sudden cold shower bath immediately after a warm plunge bath; in fact, it seems to do away with the relaxing effect of the latter, and to favour agreeable reaction of the skin.

THE HIP-BATH.—This form of bath is perhaps of all others, most generally used in private families and in the sick-room, as it is so convenient, and can be so readily applied. A cold hip bath should not be taken by females at the time of the monthly change, but may be freely used by the strong and robust, and is an excellent strengthening tonic, especially to the organs contained within the pelvis. The warm hip bath, either simple, or with the addition of a handful of mustard, is one of the best agents with which we are acquainted for the stimulation of the womb to activity. In addition to, and after its use the back may be bathed with mustard and water, soaked in a large sponge, and a mustard plaster, about twelve inches long by four or five broad, should be applied to the lower part of the back. A combination of these means seldom fails to rouse into action the dormant functions of the womb in simple cases.

THE FOOT-BATH.—Like the above, the foot-bath may be used either with simple water, or medicated with mustard, or otherwise, as directed by medical advice. The following illustrations may be given as examples of these cases, in which it is desirable that it should be employed. It not unfrequently happens that the poison of gout lurking in the system, gives rise to serious, and it may be, fatal affections of important internal organs. A strongly medicated hot foot-bath will frequently serve in such cases to determine the poison to the toe, or some of the small joints of the foot, with immediate relief to the patient, and freedom from danger. A patient who has been delirious for days, owing to the presence of the gouty poison in undue quantity in the blood, irritating his brain, has been thus quickly, and, as it seemed, wonderfully relieved. Again, a patient suffering from some disease of the chest, with congestion of the lungs, and great difficulty of breathing, has been often speedily relieved, so as to fall into a gentle sleep, merely from having his feet and hands plunged into very hot mustard and water, by which simple means a large quantity of blood is called to the extremities, and the overloaded and labouring internal organ lightened of its load, and enabled to perform its function in peace. In cases of convulsions in children, when a warm bath is ordered, the effect of it may be very much enhanced by adding a little mustard to the water, and if necessary, applying cold to the head, while the patient is in the bath.

THE NITRO-MURIATIC ACID BATH.—This is useful in cases of torpidity or inactivity of the function of the liver. Nitro-muriatic acid itself, is frequently prescribed to be taken internally, in such cases, and more especially of late years it has been very much ordered in the form of bath, as follows:—

Take of nitric acid one fluid ounce and a-half; hydrochloric acid, three fluid ounces; warm water, from ten to twenty gallons, and mix. It should be prepared in a wooden bath, because the acids act upon metallic substances, and the patient should remain in it from ten to twenty minutes. If the bath cannot be borne, the patient may sponge the different parts of the body with a solution of the acids, according to the strength above indicated.

SALT WATER, OR SEA WATER BATH.—This is found to be an admirable substitute for sea-bathing, and exercises a powerful stimulative action upon the glands of the skin.

Take of bay salt, or sea-salt, half a pound, sulphate of magnesia or epsom salts, two ounces, solution of chloride of lime, one ounce; water, from twenty to forty gallons; this forms an excellent artificial imitation of sea-water, and can be very readily and cheaply obtained. In cases of debility or chronic rheumatic affection of the joints accompanied with debility, tepid water may be used with the above ingredients, either as a plunge, or as sponge bath, and the body, over all its surface, should be briskly rubbed with a coarse towel, hair glove, or flesh brush. Where there is a predisposition to consumption, or other manifestations of the scrofulous constitution, great benefit has been found to result from the use of the above, a stimulating effect of the salt water upon the delicate chest being very remarkable.

THE ALKALINE BATH.—This is generally prescribed for persons of rheumatic or gouty constitution, and may be made very simply by adding about a pound of carbonate of soda to twenty or thirty gallons of water.

One ounce of carbonate of soda, with one ounce of laudanum, to a quart of hot water, closely resembles the well-known Fuller's lotion. Folded lint or flannel dipped in this lotion may be applied to very painful rheumatic joints, oiled silk being placed over the limbs to keep them moist. In this way, great relief is often obtained from severe, dull, aching pain. Carbonate of potash may be substituted for carbonate of soda, especially in gouty cases.

Some diseases of the skin, though not dangerous in themselves, are occasionally attended with so much irritation as to render the life of the patient a burden to him, and relief to this itching sometimes follows the uses of a sulphur or other medicated bath, which will be prescribed by the medical attendant. The effect of a sulphur bath is most easily obtained by adding three or four ounces of sulphuret of potassium to about thirty gallons of water. This bath is frequently used as a cure for itch. The smell of sulphuretted hydrogen, which arises during its use, is very unpleasant to some people.

Itching of the skin is very frequently allayed by a creasote bath. For this purpose one or two tea-spoonfuls of creasote mixed up with a little mucilage or glycerine may be added to the ordinary warm bath. It would be needless to indicate the numerous forms of medicated baths which have each their favourite advocates amongst medical men; and, as a rule, none should be used without the sanction of the medical adviser.

THE PORTABLE VAPOUR BATH.—The annexed engraving represents an article of the above kind, which is simple in construction, easily put in action, can be used at the house of the patient, and supplies vapour at any required temperature. This air or vapour bath is of great use in the treatment of gouty, rheumatic and neuralgic affections, some forms of dropsy, and of skin disease, and in every disease in which increased action of the skin is likely to be of service. Under the various articles to which the reader has been already referred, several different simple methods of extemporizing a vapour bath have been mentioned; but the annexed combines the advantages of ready and convenient application, portability and moderate cost. It can be used by a person in bed, or on a chair, and also to the whole or any part of the body, with equal facility; it is also fitted with a perforated tray for herbs, drugs, &c., when medicated vapour is required. It can be obtained of all surgical instrument makers, chemists, and ironmongers.

BATHS FOR INFANTS.—It is scarcely possible to pay too much attention to leanliness in the care of infants, and any neglect on this head is generally followed y disordered health, and sometimes by peculiarly obstinate irritation and disease of he skin itself. In cold weather, the water used for washing infants should never e quite cold, because there is a tendency to congestion of internal organs, if the urface is too much chilled without reaction, and, for the same reason, a child when eing washed, and still more when being dried after washing, should never be exposed o a draught or current of cold air. For newly born and young infants, very fine oft flannel, or fine Turkey sponge, should be used with soap. The practice, which btains amongst some old-fashioned nurses, of rubbing the child's skin over with pirit, after a bath, to produce reaction is a highly reprehensible one, inasmuch as the timulus is too artificial to be of any benefit.

How to give a Child a Warm Bath.—A warm bath is very often ordered by edical men as a remedial agent for children suffering from disease of the lungs, or ther internal organs; but it must be manifest that, if the child is unnecessarily rightened, and exhausts itself by crying and struggling violently, owing to alarm at he preparations which are being made, for what appears to him a frightful process, ore harm than good will be done. The following piece of advice, therefore, to others and nurses, it is hoped will be followed on all such occasions. First, prepare he bath out of the room, and out of the child's sight, so that he may not see it preared in the room, and steaming frightfully as it seems to him. Secondly, after it prepared, cover it over with a large flannel cloth, or with a suitable blanket, so as hide the steam, and so prepared, bring it into the bed-room. If the child is very rone to alarm, and especially if this has been favoured by his having been roughly athed by his nurse on former occasions, it will be well to place him on the flannel loth, and let him down gently into the water. A floating ball, of a pretty colour, or a rk, with coloured feathers, may be given him to play with in the bath, and in is way, what is often made an object of terror, and is the means of doing injury stead of good, may be converted into a source of real pleasure to children, so much , that when this plan is adopted, in the writer's experience, they are more apt to ry at being taken out, than at being put into the bath.

The temperature of the water used for a child's bath should be from 96 to 98 degrees ahrenheit, at all events for the first five weeks of its life; but as it grows older, the mperature may be diminished until it is comfortably tepid; and if the infant is oderately strong, cold water may be used in summer, with the precaution that the body ust not be left immersed in cold water for any length of time. After washing and bathg, the child should be thoroughly dried; and if the child is very fat, the creases of the in may be dusted over with a little unscented hair powder, or with simple powdered arch, contained in a cushioned bag. Soap should be used with caution to the delicate in of an infant, and if there is any abrasion or eruption, to such parts, thin starch lution may be employed instead, or tepid water may be simply drained over them.

The parts requiring especial attention, as to cleanliness, are the thighs and groins, e creases in the neck, the bends of the arms, the hands, the hips, and behind the rs. If there is vomiting, or much discharge of saliva from teething, the lips, chin d neck ought to be very carefully washed. Want of attention to these little rticulars is almost certain to be followed by some troublesome eruption of the skin.

In conclusion, the whole process of washing and bathing an infant should be carried rough expeditiously, and should be made a matter of recreation and healthful amuseent, and a source of real pleasure, instead of a painful and irritating ordeal, without nefit to the health, and to the direct injury of the temper and disposition of the child.

THE DOUCHE, HOT AND COLD.—It is sometimes necessary, in order to relieve e painful and troublesome affections of the joints and other parts, so common in chronic rheumatism and allied diseases, to employ what is called the hot douche, or hot douche bath: that is, to apply a continuous stream of hot water to the affected parts, either alone or accompanied by friction and percussion. The simplest and readiest method of effecting this is for the operator to stand upon a table or chair, armed with a jug or tea kettle, from which he allows a stream of water to fall upon the affected part, while, at the same time, an attendant keeps up percussion by means of an India-rubber bottle, stuffed with wool, or some soft substance, attached to a handle of cane—any other material will do equally well instead of India-rubber for this sort of bath, so much used on the continent, at some of the most fashionable watering-places. A very high temperature (150 degrees Fahr.) can be easily borne; and where desirable, as for instance, to an enlarged, painful and stiffened joint, the process may be continued for half an hour at a time.

THE COLD DOUCHE.—This is applied in exactly the same way as the other, with modifications, and without the percussion being required in some affections of the joints, &c., in which it may be ordered by a medical man. It will be desirable to use a strong stream of water, and to pour it from a good height; but when it is wished merely to apply cold to the head, as, for instance, in fever, or disease of the brain, or in the case of severe wounds of the scalp, a gentle stream of cold water only should be made to trickle over the patient's head. This may readily be effected by means of a worsted thread (or several threads) dipped in a vessel arranged at a proper height. The patient's head and shoulders should be laid upon a waterproof cloth, so disposed as to allow of the water flowing from it to a vessel placed at the foot of the bed.

OTHER METHODS OF APPLYING COLD TO THE HEAD.—Besides the above-mentioned excellent method, cold may be applied to the head by means of evaporating lotions, or by rags dipped in iced water, or by pounded ice in a bladder, or waterproof bags especially made for the purpose. Even skilful nurses, or that are at all events called skilful nurses, require to be constantly superintended, else they do more harm than good in this particular. For instance, they will take a large cloth dipped in cold water, fold it, apply it to the patient's head, and leave it there for an indefinite time, not knowing that it very soon becomes hot, and acts like a poultice, so that they are, in fact, applying heat instead of cold to the sufferer's head; perhaps, too, the patient is unconscious, and unable to communicate his feelings to those around him. In order properly to apply either cold iced water or evaporating lotions to the head, a simple layer only of *thin* muslin or linen should be used, so as to allow of free evaporation, and this may be frequently changed, or it may be wetted without being removed from the head at all by squeezing a sponge or rag dipped in the lotion upon it.

The following may be recommended as a cooling, evaporating lotion for the head to be used in fevers, inflammation of the brain, injuries to the head, &c., &c.:—

Take of solution of acetate of ammonia three ounces, rectified spirit, two ounces, rose water, seven ounces. Mix. Or simple vinegar and water, or spirit of wine and water may be used; or a lotion made of sal ammoniac and nitre, of each, two ounces; water, 16 ounces.

TO APPLY ICE TO THE HEAD.—The ice should be pounded and placed in a bladder, not too full, or in one of the India-rubber pillows which are made for the purpose. When all the ice is melted, it should at once be renewed, as the water soon gets very hot.

N.B.—It is to be remembered that the long and continuous application of intense cold to the head may be followed by great depression of the vital power, and dangerous results, so that it should be done under the eye of a medical man.

Should the patient complain of the weight of the ice bag or bladder on the head, a string may be passed from it to the rail of the bed-post, or to the ceiling and brought down as over a pulley and tied so as to support part of the weight.

When it is desirable to keep the sick room quiet, iced water should always be placed in a basin, *with a cloth in it*, to prevent the floating ice from jarring against the sides of the basin, with a ringing and disagreeable noise.

HOW TO SHAVE THE HEAD.—Cold cannot, in a severe case, be efficiently applied to the head unless the scalp be shaved. Now, it sometimes happens in emergencies that the task of shaving the head falls to the lot of some one who has never before performed the operation, therefore, perhaps, a few simple words of advice may not be altogether out of place.

A cloth should be placed under the head, and the hair removed as close to the roots as possible, with sharp and strong scissors. The head is then to be covered with a lather of soap, and the razor applied with strong and bold strokes *across* "*the grain*," in which direction it will be found that the work is much more easily done. In this way the entire scalp may be speedily shaved in a very few minutes.

THE APPLICATION OF STUPES.—The most common, and by far the most useful, is the "Turpentine Stupe." It is of great service in inflammatory diseases of the chest and bowels, especially in bronchitis, inflammation of the lungs, pleurisy, peritonitis, inflammation of the bowels, &c., &c. The turpentine acts as a powerful counter-irritant, and reddens the skin; and indeed, if it be applied often enough, and in sufficient quantity, it will readily produce a blister; but this effect is seldom, if ever, desired from turpentine.

In order to apply it, a flannel cloth is to be wrung out of hot water, and a tablespoonful of turpentine is to be sprinkled over the surface which is to be applied to the skin. Over this another dry flannel ought to be bound, in order to keep the night-dress and bed-clothes dry. The process should be assiduously repeated till the skin is thoroughly reddened, and a smarting pain produced over the part. When that is accomplished, no more turpentine should be used, but common hot fomentations may be continued over the part as long as considered desirable. And here it may be said, that it is very difficult to get nurses to persevere with fomentations in particular cases, as they cost so much trouble and labour. The difficulty may in great measure be overcome by attention to system and order, and by the following of the best methods of applying them.

Laudanum stupes are to be applied in the same way as the above, only their effect is soothing instead, of counter-irritant, and they may be repeated indefinitely without any hurt to the skin. They exercise a powerfully sedative effect in many cases of disease attended with severe local pain. When "poppy heads" cannot be readily obtained, a laudanum stupe is a good substitute for the poppy head fomentation.

FOMENTATIONS.—The chief difficulty is to supply them hot enough, because they part with their heat so quickly, and also because it is almost impossible to wring them dry with the hands when they are just taken out of very hot water. They ought, therefore, to be wrung between two sticks, or squeezed with the pan-lid over a perforated tray, which should accompany every fomenting pan. The wringing process may be done away with altogether, by using two pieces of flannel, and laying the one which is to be used next, not in the water, but on the tray, which is fitted into the pan *above the level* of the water, and is kept hot and moist *by the steam*, but not so moist as to require wringing, or, at all events, not more than may be done by just pressing it down upon the tray with the lid before using it.

The reader is referred to the articles "Fomentation," "Bran," "Heat," and "Poultice," in the body of the work, for further information on this subject.

It is very difficult to get people to believe in the efficacy—which, however, is very wonderful—of simple hot fomentations, so that, in different parts of the country, different materials are used for fomenting, according to popular prejudice in their favour. Camomile flowers, poppy heads, marsh-mallow roots, and various other substances with sedative properties, are in common use. The lead and opium lotion, made by dissolving two drachms each of tincture of opium and solution of acetate of lead in a pint of water, is an excellent lotion to use in cases where it is wished to apply soothing and drying hot fomentation to an inflamed part. Three or four poppy heads, with a couple of handfuls of camomile flowers, may be boiled in water, and the liquor used for fomenting. This is a very favourite form of fomentation with the lower classes in several parts of England. We consider the old-fashion poppy-head fomentation of so much importance that we must give particular directions as to how it must be applied. Four ounces of poppy heads are to be broken up and put into a vessel, into which four pints of boiling water should be poured upon them. The whole is to be boiled for fifteen minutes, and the liquor then strained off.

POULTICES.—The reader is referred to the article "Poultice," in the body of the work, for information as to the different kinds of poultices, and also to the article "Disinfectants," in the Appendix.

Poultices are useful as fomentations, in cleansing and promoting the discharge from sores, and also, when disinfectants or deodorizing substances are added to them, they are serviceable in removing foul and putrid emanations. It will be seen that we have now a much greater number of substances than formerly for application to foul and gangrenous sores, with a view to destroying their noxious emanations; and it is to be desired that one or other of them should always be made use of to destroy bad smells in a sick-room, as a patient, and his attendants likewise, are sure to suffer in health unless this is attended to.

The principal points to attend to in making a poultice are, first, to crumble the substance of which it is to be made sufficiently, so that there shall be no lumps or irregularities; secondly, to make them neatly and light, and to fold in the edges of the cloth upon which they are spread, so that they shall not mess the patient by escaping from under the poultice-cloth.

HOW TO PRACTISE "RUBBING."—Liniments are often prescribed by medical men, and the direction is left with the nurse, or printed upon the bottle, "to be rubbed into the affected part;" but the kind of rubbing will, of course, necessarily vary with the nature of the case. For instance, when there is excessive pain and tenderness of the part, the liniment is not to be rubbed *into*, but simply to be gently applied over the part, either with the hand, or with a soft piece of lint, or, better still, by means of a camel's hair brush. But, on the other hand, what are called stimulating and counter-irritant liniments, are often prescribed; and by means of these it is frequently thought to disperse, remove, or cause absorption of chronic swellings of various kinds, as well as to allay pain in parts where there is no real tenderness on pressure. Now these liniments require to be applied in an entirely different manner—that is, they require to be briskly rubbed in by the hand warmed before the fire, or with a flannel glove. In such cases the *medicina mechanica* comes forcibly into play, and is often of as much service as the drug employed in the liniment.

Ointments are sometimes ordered to be rubbed into different parts of the body. Here again the method followed must be according to the effect it is desired to produce. For example, a very powerful ointment, containing aconite or atropia, is frequently ordered, to allay the severe pain of neuralgia; and ointments are sometimes ordered to promote the absorption of inflamed glands, where there is still a certain amount of pain and tenderness. In such cases the ointment must be applied gently, else it will only aggravate the affection which it was intended to relieve; but, on the other hand, ointments which are prescribed—such as tartar emetic ointment—to bring out an eruption on the skin, or mercurial ointment, with a view to its absorption into the system, should be vigorously rubbed into the parts indicated by the medical adviser.

Ointments should always be kept in a cool place, else, if the lard becomes rancid, serious irritation may result in the case of skin diseases, for which they are prescribed.

One word more as to the rubbing in of ointments in skin diseases. For example, in bad cases of the itch, great harm is done sometimes by rubbing in the ointment equally over all parts of the surface. It so happens that in certain parts of the body, from the great irritation of the disease, ulceration, and even sloughing, sometimes takes place; and it is very cruel and thoughtless (though it is constantly done) to rub in, it may be, an irritating ointment over parts which ought, on the contrary, to be protected by some soothing application. Such places should be either covered by poultices, by water dressing, by fresh lard, or by some simple mollifying ointment; while the other parts of the surface may be freely rubbed over with the original ointment which was prescribed.

SHAMPOOING.—This is a method of rubbing or kneading limbs, much practised in Oriental countries. It is decidedly useful to those who, from disease, or other causes, are much emaciated, and are not able to take exercise in a regular way. Slight local dropsies, as of the legs or abdomen, may sometimes be got rid of in this way. When the dropsy is seated in the legs, rubbing or shampooing should always be conducted in one direction, upwards.

Gentle rubbing or stroking of the surface is a method also used in Oriental countries to procure sleep. It is an art which is too much neglected in this country, and it may be truly said, that the sedative effect produced in this way by those skilled in it is something marvellous. Those who have been accustomed to it, when sleepless from pain, or any other cause, can often be readily soothed by its means.

RUBBING WITH THE FLESH BRUSH, HAIR GLOVE, &c.—These methods are principally to be used as hygenic means, and scarcely come under the head of sick-room management. They are often, however, powerful adjuncts in the treatment of disease, and are useful for promoting reaction ot the skin, after the use of baths, liniments, &c. Several new instruments of this kind, both for cleansing and stimulating the skin, have been introduced, since the ready application of the different forms of India-rubber manufacture to the production of this sort ot article has been understood.

HOW TO APPLY MUSTARD POULTICES OR SINAPISMS.—The acrimony or power of yellow mustard may be increased, if desirable, by making the mustard up into a paste with vinegar instead of water. Few persons can bear a well-made mustard poultice much longer than from fifteen to twenty minutes, in the course of which time it will probably have acted sufficiently. Pure mustard should never be applied to the delicate skin of infants, who are much more easily acted upon by it than adults. For them equal parts of bread crumbs, flour, or oatmeal should always be used, and the mustard poultice should only be kept on until a red blush appears.

After a mustard poultice is removed, the part should always be dressed with some fresh lard, spread on cold upon a linen rag, or a sheet of fine cotton wool may be placed over it. Nothing can be more soothing and agreeable to the feelings of the patient than this.

Sinapine tissue, for an account of which the reader is referred to the Appendix, promises almost entirely to supersede the use of the mustard poultice. It certainly has the advantage of being light, extremely easy of application, and free from the objectionable clammy feeling which accompanies the first few minutes after a mustard poultice has been applied.

N.B.—When mustard poultices are ordered to be applied to the calves of the legs, nape of the neck, or other part of a patient who is insensible, care should be taken to remove them in due time, because it has happened in the experience of medical men, under such circumstances, that in the confusion and hurry of the time, the poultices have been left on until they have produced ugly sores and sloughs, from the effects of which the patient could with difficulty be rallied.

HOW TO APPLY HOT BOTTLES.—It is often of great importance that hot bottles should be very quickly applied to the hands and feet, and to the sides. In certain cases life itself may depend upon the quickness with which this is accomplished.

When a patient, after an operation, or in the course of an acute disease, is seized with what is technically called rigor or shivering, hot bottles should at once be applied, in order, if possible, to check it. The ordinary old-fashioned stone foot bottles, when enveloped in flannel, retain the heat for a considerable time. Their use, however, is sometimes superseded by bottles of India-rubber, which are lighter, and much more easily managed. Hot bricks enveloped in flannel, or the plates from the oven of an ordinary kitchen grate, may be substituted for hot bottles. Bottles made of tin are sometimes used for applying heat in the same way as the stone bottles, and sometimes also they are used in the form of what are called stomach plates, to apply heat to the bowels or chest. They possess the advantage, after a hot fomentation, of being able to retain their heat longer, while they do not wet the patient's bed or clothes; but, on the other hand, there is an undoubted advantage in *warm* and *moist* applications, which the tin plate does not possess. An admirable substitute for the tin plate is the India-rubber stomach cushion, which can be used for such a variety of purposes, and which is certainly one of the greatest improvements amongst the many additions which late years have made to the appliances of the sick-room. Bags of hot salt, or of hot bran, are often used instead of hot bottles. The salt or bran is to be heated in the oven, and enclosed in a flannel bag previously warmed. This will be found to retain the heat for a long time.

A very good method of applying hot bottles, in order to check rigors which accompany febrile attacks, with dryness of the skin, and cold shivering, till the teeth "chatter in the head," is as follows:—Several ordinary black bottles are to be filled with hot water, and put into the inside of woollen socks or stockings, which have been previously wrung out of hot water. These (two on each side) are to be placed alongside the patient, the bed clothes being protected by a dry flannel cloth. In a very short time the shivering will be checked, and the patient will be found bedewed with gentle perspiration.

HOW TO APPLY COLD WATER TO WOUNDS BY MEANS OF IRRIGATION.—Surgeons are now almost unanimously agreed in discarding the old, cumbersome dressings, plasters, ointments, bandages, &c., &c., with which wounds and stumps used to be loaded. A practice now prevails of much greater simplicity, and even to the stump of an amputated limb, it is not thought needful to apply anything whatever, but only to lay it in a comfortable position, so as to relax the muscles, perhaps upon a water pillow, and to apply along the line of the wound nothing but a strip of wetted lint or linen, which, for some days, requires to be kept constantly moist. Ragged, torn, and bruised wounds, such as the shattering of the hand or foot by gun-shot accident, or a crush from machinery, whether they require partial amputation or not, are found to be treated most efficiently and simply by the process of irrigation a process which every medical man, if he wishes to employ it, will direct to be followed out according to an idea of his own. At the same time it will be well that the attendants of the sick-room should be acquainted with and know how to set in operation this most excellent method of keeping wounds clean and moist.

If the bed be a four-poster, or a French bed, with a canopy, a vessel containing cold water may be slung from the top of the bed in such a position as to hang over the wound. But if the bed be an iron one without any canopy, it will be necessary either to fix a pole in the wall, or to have an apparatus or support for the vessel in the form of a gallows, the transverse limb of which, reaching over the bed, must have the vessel suspending from it. A few worsted threads are to be placed in the vessel containing cold water and allowed to hang over the wound, till their ends almost touch it. The water will run down the worsted and trickle drop by drop gently but continuously upon the surface of the wound. Nothing can be more soothing and gratifying to the feelings of the patient, or more likely to subdue the pain, heat, redness and swelling which accompany inflammation. The wounded limb must be placed upon a Mackintosh cloth, which can be so arranged that the water should drop from it over the edge of the bed, where it can be caught by a vessel placed for the purpose. If it be desired to have a large number of drops, the ends of the worsted may be kept separate by being passed through perforated cardboard.

Another method still more simple is to suspend an ordinary funnel or tin-dish, by means of a piece of string, either to the bed, to a hook in the ceiling, or to such an apparatus as described above. A cork, fitting loosely, may be placed in it, so as to allow the water to escape only drop by drop, or it may be allowed to escape in a gentle stream, if the cork be fitted still more loosely.

Either of the above methods may be applied to wounds, of the nature indicated above, to certain cases of compound fractures of the limbs, and, in fact, to cases generally in which it is desired to apply the simplest of all dressings, viz., lint or linen soaked in water and laid loosely over, merely to protect the wound from external influences, to keep it cool and moist, to favour the escape of discharges, and, "to give nature a chance" to effect the healing process.

EXPOSURE TO AIR, LIGHT, &c.—As it is very necessary that the sick-room, being the room in which the patient has to spend wearisome days, and still more wearisome nights, should be exposed as much as possible, to a plentiful supply of fresh air, and to light, it is obviously of importance that a good aspect should be chosen. All creatures, whether animal or vegetable, turn themselves joyfully to the light, and it may be roundly stated, that especially for growing children, light is almost as essential as fresh air. Plants which are not exposed to the light grow up blanched and deprived of their natural colour, and the same is the case with our miners, our artizans, and even our women and children, who live in densely crowded alleys, or in underground cellars, and especially in the lower regions of some of those old-fashioned houses, which, though at one time inhabited by the flower of the aristocracy, are now only distinguished for the squalor, filthiness and wretchedness of their inhabitants.

When any member of a family is laid up with some serious disease which may possibly render it necessary that he should be confined to the sick room for months, or it may be years, the best room in the house should, if possible, be placed at his disposal, seeing that so much of his time has to be spent within these four walls. In addition to light and air, a good view from the window is a great advantage.

Of course, it is well-known that in many cases where there is great nervous excitement, in fevers, cerebral diseases, &c., as well as in many affections of the eye, light for a time must be partially if not entirely excluded. This can, however, always be readily done, by means of a blind of a green, or still better, of a slate colour, which can be pulled up or down at pleasure. For all chronic diseases, and indeed, it may be said, for almost all diseases, with the few exceptions abovenamed, an abundant supply of light is of the first necessity. It is thought by some very careful observers of disease that our great national scourge of scrofula is probably as much engendered by want of light as by want of fresh air. Without light, the mind undergoes degeneration as well as the body, and the body itself soon becomes stunted or deformed, and easily falls a prey to disease. We have reason to be thankful that the houses which are now built to be inhabited by the rising generation, are not liable to such a monstrous piece of exaction and absurdity as the window tax, an imposition which was no less prejudicial to the health of the community than a disgrace to the memory of those who devised it.

QUIET.—How often does it happen that a doctor leaves his patient with the injunction that he is to be kept perfectly quiet, to which the patient assents, and the nurse promises obedience: and yet, no sooner is the doctor's back turned than the sick room, instead of being sacred and unmolested, is made the scene for the reception of a levee, or for the transaction of all manner of domestic business. How often do troops of sympathizing friends force their way into its precincts, and each in his turn require to know the nature of the disease, and of the treatment which is being carried on, relating, at the same time, their own wearisome experiences of what they fancy to be precisely similar cases, and contrasting and commenting freely upon the different plans pursued, with the effect, perhaps, of not only greviously fatiguing the patient, but of filling his mind with groundless anxiety and alarm. It is, or it ought to be, quite sufficient to prevent such intrusions merely to say, that all visitors are prohibited by the medical attendant. The writer is in the habit of leaving a *written paper* to be shown to visitors. But there are a great many other respects in which the patient is to be kept quiet and undisturbed. Everything connected with the arrangements for his comfort, where practicable, should be done outside the sick room, so that he may not be annoyed by any arrangements of a noisy character which can be avoided. The very least sudden or unwonted noise may alarm and seriously injure a patient suffering from nervous disease, and any noise which suddenly wakes a patient out of sleep does him real harm. Possibly hours may have been spent, and powerful doses employed for the purpose of lulling a patient to sleep, a sleep on which, perhaps, his recovery may hang, when some thoughtless and indiscreet person may spoil all by suddenly awaking him. A patient once roused from this kind of sleep, sometimes awakes excited, frightened, almost terror-stricken, and is sent to sleep again with much greater difficulty than if he had never been asleep at all.

It is not the absolute loudness of a noise which is injurious, but there are some noises which are exceedingly irritating, especially to the excitable ears of a sick person. Such are all rustling of dresses, whisperings, shakings, rattlings, jarrings of all kinds, the creaking of doors or of shoes, and the rattling of windows; the jarring tread of people overheard, or running up and down stairs, is frequently a source of great irritation to the sick man, who will tell you that he feels every step go through him. Patients suffering from an acute attack of gout have been thrown into an agony of pain by the tread of some one hastily crossing the room. As a rule, children are not so easily disturbed by noises as adults; and it is astonishing how very young children will sometimes sleep in the midst of noises all around and about them.

It is an axiom insisted upon by all writers on the subject of nursing, that no attendant upon the sick should ever wear a rustling silk dress. The gown should be of a soft limp material, and, if we may venture to allude to the subject, we may say that crinoline is nowhere more out of place than in the sick room.

READING ALOUD TO PATIENTS.—To some this is torture, while to others it is pleasant and soothing. Some will say, "Read me to sleep," and will actually soon drop off into a doze after the first few pages of some sufficiently uninteresting work has been read to them. It must be admitted, as a rule, that most people read very badly, and that conversation is more adapted for the sick, because the tone of the voice is more natural and pleasing when talking than when reading or reciting.

Care should be exercised in reading stories to sick children, especially to those of a nervous excitable temperament, for they often become interested in the story, and will beg it to be continued, little dreaming of the after effect upon their minds. The consequence is, that at night, the scenes of the story are repeated, with the most grotesque variations, making a sort of nightmare or night-terror, the effect of which is often to prevent sound sleep, and to exhaust the little patient's strength, besides seriously adding to the nervous symptoms which may be present.

SYSTEM AND PUNCTUALITY.—Perhaps nothing is more effectual in securing quiet rest for patients than proper method and system in arranging and carrying on all the petty details of sick-room management. As an instance of what is meant, it will be easily understood what a much better prospect of quiet rest a patient has who gets his meals and his medicine regularly, and all his little wants attended to at proper times, and whose wishes are anticipated, planned, and provided for, than one who is attended to by those who are stupid and incapable, who blunder through their work without any fixed plan or order, and who continually disturb the patient at the most unseasonable time by asking him, What will you take now? &c., &c.

THE NURSE RESPONSIBLE FOR THE CARRYING OUT OF DIRECTIONS, NOT THE PATIENT.—When full and proper directions are given by the medical man, and these, it may be observed, should always be received by *one* person, who should be responsible for their being carried out, they should be acted upon without the patient having the trouble of thinking for himself about them. Nothing wearies and exhausts a patient more than having to *think*. He should be freed from all responsibility. He should be allowed to have nothing weighty on his mind. He should not be burdened with the fear of forgetting anything, and should have the comfortable sensation of having resigned the management of his case into other hands, in which he is to be, for the time, a mere passive agent. He should not be allowed to tax his memory by trying to remember the proper times for taking his medicine, or how it has acted; but should trust all these details to his attendant.

SHOULD THE PATIENT BE TOLD OF HIS DANGER?—A question here arises respecting which there is much difference of opinion, viz.:—When there is danger, should the patient be told of it? or is there any hazard in so doing? Now, it may be said that of late years there has been a considerable change in the practice of medical men with regard to this point, and much prejudice which formerly existed has been swept away, it is hoped, for ever. It is now pretty generally known that it rarely, if ever, does any harm to make a patient acquainted (in a proper manner, and at the proper time), with the nature of his case, and with the opinion of the medical advisers, as to the probable issue of it.

We are forced to admit that the contrary practice of former years originated, at all events, in the desire to adopt this convenient excuse for the concealment of ignorance, as to the real nature and probable termination of the disease. The ridiculous airs of profound learning and mystery assumed by medical men in old time has been well ridiculed and burlesqued by many writers, and by none so ably as by Molière in his "*Medecin Malgré lui*," and the "Malade Imaginaire."

Even now the strongest possible prejudice prevails in the public mind against telling a patient that he was the subject of heart disease. But, provided that the communication be made with the view of instructing and guiding the patient in the treatment of his case, it will be found that, instead of doing harm, it may be the means of prolonging his life, and of increasing his comfort and happiness. The writer is, and has been, acquainted with many persons who have carried about with them a mortal disease which might put an end to their existence at any moment, and he cannot recall a single instance in which the patient was not the better for the knowledge of the facts of his case, or in which that knowledge was productive of any but the best results to both body and mind.

It is no doubt one of the most painful tasks that falls to the lot of the physician to pronounce that there is no hope, when such a verdict is evidently quite unlooked for, and when the patient, instead of expecting such melancholy tidings, is anticipating nothing but a speedy recovery. Young men and young women, it may be, in the prime of life, with a brilliant future apparently in store for them in this world, are sometimes found to be suffering from acute disease, which has come suddenly upon them, and which has already advanced so far as to leave no chance of life, while all the time no thought of real danger has as yet crossed the mind of one who, it may be, in a few days, or perhaps in a few hours, will be no more. Under such circumstances, when the physician has made up his mind as to the probable issue of the case, it is but fair—it is only honest, when appealed to—though with all due caution, to prepare the mind to receive tidings of the great change which is awaiting. Indeed, it is cruel to waste or to lose any unnecessary time, because long before death actually takes place the mind may be clouded, and the attention and faculties so engaged in the struggle against the great destroyer, that the mind loses its fine natural susceptibility to external impressions, and is utterly unable to deal with any subject, connected either with this world or with that which is to come. Here, as in every other relation in life, medical men, as well as the friends and relatives of patients, ought to follow the golden rule of doing unto others as they would be done by; and we think it would be generally agreed that no one would wish to be left in ignorance upon a matter of such momentous importance.

And here it may be said that, to the writer, it has often appeared needlessly cruel, and very unwise, studiously and mysteriously to conceal from children the fact that they are not likely to recover from a mortal disease. Surely it is a mistaken kindness, and one that argues little for the proper understanding which ought to exist between mother and child, to hear some parents, up to the moment of their child's death, assuring their child that it will soon be better. Anyone who has seen the opposite course employed with children who have been sensibly brought up, will have been astonished at the very different effect upon their minds, and at the dignity, fortitude, and good feeling exhibited by many children at such times.

THE MANAGEMENT AND TREATMENT OF DELIRIOUS PATIENTS.—The reader is referred to the articles "Delirium," "Delirium Tremens," "Alcohol," "Dipsomania," "Intemperance," &c., for information as to the different kinds and treatment of delirium; but here it will be necessary to give a few general directions which may be of use in the sick-room. And first of all, it must be remembered that, in acute diseases, in fevers, after child-bed, &c., delirium, even of the most dangerous, violent, or suicidal nature, may develop itself so suddenly that the attendants may not be able, from want of sufficient warning, to prevent serious consequences. It will therefore be needful for those who have charge of the sick to carefully note and report symptoms which may arise in the course of the disease, such as wandering, incoherence, delusions upon any subject, or any outré act or speech which might lead one to suspect the giving way of the mental powers. As a rule, when such symptoms have once manifested themselves, it is not safe for the patient to be left unwatched; and no article should be left within reach with which he might inflict an injury upon himself or others. Neglect of such precautions as these has, to the great grief and sorrow of all concerned, been followed by most serious consequences. Patients in whose family there has been no hereditary taint of insanity, and who themselves have never exhibited any trait of mental aberration, have, while the subjects of certain diseases, been known to get out of bed and throw themselves from the window. In the delirium of fever patients, if unrestrained or unwatched, would oftentimes destroy themselves.

It is quite familiar to medical men, and has been known for a long time, that inflammation of the apex, or upper part of the lung, is, as a rule, at one time or other of its course, accompanied with delirium resembling that of fever. It often comes on suddenly, and the patient requires to be sedulously watched throughout its course.

The cunning of maniacs and insane persons is proverbial; and while the "restraint system" is every day becoming more and more obnoxious in the eyes of medical men, it is much better that time and care should be expended in keeping a constant watch over patients who have exhibited a tendency to delirium, than that the slightest risk to life should be incurred.

In the treatment of all kinds of delirium, as in the treatment of the sick generally, patience, kindness, and firmness, are the chief requisites on the part of the attendant; and where these are to be met with, cases will be very few and far between where anything like artificial restraint will need to be employed. No doubt it does sometimes occur that it is better the patient should be made to feel that he is overpowered, and that all his efforts to get loose are unavailing. Under such circumstances, restraint properly applied, without violence or disturbance of any kind, is in itself one of the very best means of quieting a furious patient, who will often drop quietly asleep, after finding that his struggles lead to no result.

A careless attendant, when a patient is safely secured in the strait-jacket, or by other means, has been known to leave the patient for a length of time unwatched, thinking now he is safe, and may shift for himself for a time. But this is very wrong; for the patient, especially if some of the apparatus alters its position in his struggles, may seriously injure himself, or may even, as has actually been the case, be found strangled.

In adjusting restraints upon the ankles, wrists, and other parts of the body, the greatest care should be taken not only to see that they are properly applied at the time, but to examine them repeatedly in order, to see that there is no chafing of the skin caused by the violent efforts to get free. Neglect of this precaution has been followed by the formation of deep sloughing sores, with other serious injury. Nothing is more foolish or reprehensible than when a patient is rambling in his talk in an incoherent manner, which may happen to be amusing to those who are standing by, to take up the thread of his wanderings, and encourage him to talk upon the subjects which, no doubt, are crossing and recrossing his brain in grotesque disorder. A kind, grave, firm and sensible nurse never appears to greater advantage than when dealing with a case of this kind, whereas one who reasons, talks, and attempts to argue with the patient upon his delusions, is sure to aggravate his disorder.

Sometimes without the slightest assignable cause, patients suffering from delirium will be suddenly seized with the most violent aversion to, or dread of those who have been kindest, or are nearest and dearest to them. It is always best in such a case at once to remove the person from their sight, in which case the dislike or fear may very likely at the next visit be completely changed into sentiments of an opposite description. In the progress of disease, patients are much more liable to attacks of delirium at night, or during the early hours of the morning, and nurses cannot be too much cautioned as to the fact, since patients who have appeared to go quietly to sleep at their usual bed-time have, in the course of a few hours, suddenly awoke in a state of, for the time, raving madness.

No patients of this class require closer watching than those who are afflicted with suicidal melancholy. Such a one will often remain for days without saying a word to any one, and requires to be induced to perform the ordinary duties of life, to take his food, or even to change the posture which he has originally assumed. The despondency and depression of spirits are so intense, that, while they continue, the patient cannot be left with safety a moment, while he has the means of putting a termination to his existence. When he finds that he is closely watched, and that it is impossible for him to carry out his determination, he will often, with a sinister cunning characteristic of his disease, throw aside his dull and morose manner, and assume a cheerful and contented deportment for days, or even weeks, in order to lull the suspicions of his friends. At the end of this time, however, when the vigilance of his attendants is relaxed, he will carry out the intention which he has probably premeditated and brooded over for a length of time, and will accomplish his own destruction in any way that may be in his power. Intending suicides will attempt to destroy themselves in various ways, even so as to baffle all the ordinary precautions. For instance, they will set fire to their clothing, they will attempt to strangle or hang themselves by every conceivable method, they will attempt to poison themselves with their medicine, or with anything else, and will even try to suffocate themselves, by stuffing their clothes into their mouth, so as to prevent breathing.

One of the most embarrassing features in the management of insane or delirious patients is, that they sometimes absolutely refuse to swallow food of any kind. When this is the case, the attendant should be careful to tempt the patient with different articles of food; when this method fails, it will be necessary that the medical attendant should inject food into the stomach, by means of the stomach pump, such food being, of course, fluid, and of a highly nutritious description, such as different mixtures, containing milk thickened with farinaceous food, strong beef or mutton tea, milk, wine, brandy, cod liver oil, &c. But it may happen that it may not be possible to secure the services of a medical man for this purpose, and at all times, in the case of a private patient treated at home, it is a very arduous and a troublesome process, that of feeding a patient three or four times a-day, and one involving very frequent attendance on the part of the medical man. Therefore, in extreme cases, or where the services of doctor cannot be procured, a long flexible tube might be passed through the nose, and down by the posterior nostrils, into the gullet. To the end of this a funnel is attached, and liquid food of the kind mentioned above being poured into the funnel will descend into the stomach, simply by force of gravitation. Failing this, nutritious clysters, of the same kind as indicated above, may be slowly injected three or four times a day, till other means can be adopted.

An attendant upon a delirious or insane patient should never make promises to him without keeping them, should listen patiently to the story of his wrongs, grievances and complaints, instead of treating them with contempt, and should, as a rule, never argue or reason with him, but as far as possible, even under the most severe provocation, preserve an equably kind, cheerful, and firm manner, by which means an influence will be acquired over all kinds of nervous patients, never to be gained by any amount of severity, punishment, violence, or restraint.

Presence of mind, and confidence in our own resources, exert a great moral influence over the insane, and have often been the means of rescuing an attendant from sudden peril in his intercourse with them, as well as of saving the unhappy creatures themselves from injury or destruction. The following anecdote well illustrates this:—

A patient in a high state of delirium eluded his keeper, and, running upstairs to the attics, escaped through a window opening upon the roof of the house. His keeper followed him out upon the slates, and upon seeing him, the maniac shouted, "Look here, I will show you that I can jump down." With the utmost readiness and presence of mind, the attendant replied, "Oh! any one could do that, but if you will come down with me, I will show you that I can jump *up*." The *ruse*, which certainly, under the awful circumstances, was quite justifiable, completely succeeded.

One other anecdote will suffice to illustrate the good effects of presence of mind, in dealing with the insane. A medical friend of the writer's, the governor of an asylum, was once surprised alone, by a visit from a patient who had, for some entirely groundless reason, taken a great dislike to the doctor, and fancied that he was the cause of all his misfortunes. "Now," said the patient, (who was an immensely powerful man), "I have caught you, and you will find resistance of no avail, for I have the strength of three men." To this the doctor, looking him steadily and unmovedly in the face, replied at once, with the greatest coolness, "There you are mistaken, for I have lately had given me the strength of *ten* men, and if I chose, I could double you up, and throw you out of the window." Immediately the current of the patient's thoughts was changed, and he began eagerly to inquire about the supposed miraculous gift of strength, and ever afterwards continued very much attached to his medical friend, whom he looked upon as the most remarkable man of the age.

There are few offices which require more good sense and delicacy of feeling than that of a nurse, because every nurse ought to be one who can be depended upon as "confidential." To her may be entrusted, either as a matter of necessity, or inadvertently, secrets which may involve the peace and comfort of families; and the qualities of such a nurse will be thoroughly tested in attending upon any cases of delirium, and mental disease generally. The greatest prudence and discretion will be necessary to avoid gossiping and talking, and it may be laid down as a rule, that any nurse who discloses what takes place in the sick-room, or who answers any questions respecting her patient or his friends, to any except those who have a right to ask them, is quite unfit for her business. Truly, no one should venture upon undertaking the responsible duties of a nurse, who is not prepared to carry them out in strict honesty of purpose, and who does not hope to be supported in them by a spirit of religious devotion.

It seems scarcely necessary to caution any young and inexperienced nurse, against making the delusions and fancies or the delirious freaks of patients under certain circumstances, matter of amusement to herself or her friends. Surely it must be always a melancholy thing to contemplate a mind over which reason has lost its sway, and where the different faculties are permitted to run riot instead of properly controlling one another.

THE ADMINISTRATION OF FOOD AND MEDICINES.—For full information on this subject, the reader is referred to the articles—"Cookery for the Sick," "Nursing," "Medicines," &c., in the body of the work, and in the Appendix. It is very difficult to get inexperienced persons to pay attention to *regularity* in the giving of food to sick people, and also to study the hours at which food can be taken by the patient. The stomach of a sick man is so very delicate and capricious, that it requires to be carefully observed as to these particulars.

The stomach is often so enfeebled by disease, that it cannot even take liquid nourishment, except in the smallest quantity at a time, and at proper intervals. For example, how many patients will tell a medical man that they cannot take milk, that it always makes them worse, that it creates the bile or the phlegm, or something of that sort, whereas, the fact is, that there are very few, if any stomachs, that cannot bear milk, provided it be properly administered. It is not to be wondered at that a delicate stomach, during disease, should reject milk, if a large draught, say half a pint, or a pint, be taken all at once, and without any preparation. People forget that the stomach requires to be educated, oftentimes, before it will bear even those sorts of food, which are most likely to be of benefit. Many patients have been kept alive almost entirely upon milk, who were well assured beforehand, that they could not take it at all. But it should be given in small quantities at a time, and if there is much acidity a little soda or carrara water or lime water may be added to it, and in cases of great debility, a little rum or brandy. Patients who have been sick after taking milk, and who have seen that they have vomited the milk in a state of curd, often think this is conclusive evidence that milk must disagree with them, not knowing that milk must always undergo this change, by the acid of the gastric juice, before it can be digested or assimilated.

Some of these remarks apply also to beef-tea, mutton-tea, &c. A small quantity frequently administered, such as a tea-spoonful every half-hour, will often be retained, when a large quantity, say a half-pint every two or three hours, would be rejected by the stomach. The doctor has very frequently to listen to the oft-repeated complaint, on the part of patients, that the nurse is always wanting them to take something, and that they can get no rest: and this is often very well founded, for a stupid nurse, without any system or method, generally contrives to be always tormenting the patient with something, whereas, by judicious arrangement of time, the patient could be got to take twice as many things with half the amount of fatigue. In critical cases, life may depend upon the careful and punctual administration, not only of stimulants, but of nourishment, and it will be readily understood that, when the stomach is only capable of receiving a small amount at a short interval, if that interval be prolonged, the opportunity of saving the patient may be lost.

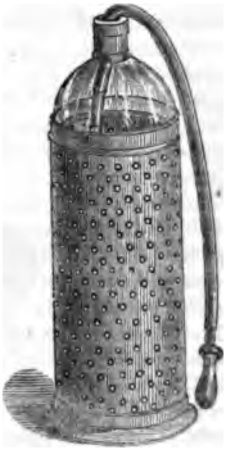
In cases of sickness of old standing, perhaps connected with disease of the digestive organs, there is sometimes so great a repugnance to food of any kind, and so little power of appropriating it, that the patient, if left in the hands of an unskilful nurse, would certainly die of starvation. In order to prevent this, it will be the duty of those who have the superintendence of such matters to exercise all the ingenuity of which they are capable in preparing and cooking the patient's food; in giving it to him at those times when exhausted nature most requires it—for example, during the night or in the early morning, and in changing and varying the time of meals according to the state of the appetite or inclination of the patient. It may be repeated here that, both to avoid the danger of disgusting the patient, and in order to keep the sick-room at all quiet and in a wholesome condition, no cooking must ever be done there, nor must any food be left about. It is too common to find a room littered about with half-consumed puddings, jellies, oranges, apples, grapes, &c., &c., all of which should be kept out of the patient's sight, otherwise he will not relish them half so much when he is able to take them. It can scarcely be too much impressed upon the mind of a nurse, that she must plan and regulate the patient's diet according to system, and have everything prepared to carry out the proposed arrangements. It is the very refinement of cruelty to torture a patient with questions as to the arrangement of his diet, since nothing is more necessary than that the mind should be perfectly at rest, and free from all thought and responsibility on such subjects. Wherever practicable and desirable, it is a good rule to have written directions from the medical man as to the administration, both of food and stimulants.

Attention should be paid to the quantity, or rather to the bulk, of food or drink which a patient may properly consume. Brandy and wine, when ordered to be taken with water, are sometimes so "drowned" that the enormous quantity of fluid dilutes unduly the gastric juice, and weakens the already enfeebled digestive power of the sufferer. Beef-tea, broths, and farinaceous foods are also often made too thin or too bulky. In connection with this subject, let it be kept in mind that nothing disgusts a sick person more than to have large quantities of food put before him. When a little gruel is ordered, the nurse perhaps, instead of a cupful, brings a basinful, with the effect of thoroughly nauseating the patient by the sight of it.

In former days, when the excessively lowering plan of treatment was adopted by medical men of the Sangrado type, the practice was even to weaken the food of the patient as well as the patient himself. The beef-tea was jealously inspected, and if thought to be too strong was ordered to be diluted. In some diseases, in fact, in acute diseases generally, and in those where there was a fear of inflammation, beef-tea was often prohibited as too strengthening. Remnants of this prejudice are still to be met with among the ignorant; but it may safely be said that the usual danger is of getting beef-tea too weak, and that in the majority of diseases, where it can be taken at all, it may be given of full strength.

By using the simple apparatus recommended in the beginning of this article, as a piece of furniture for the sick-room, (and figured below,) a cup of beef-tea, or mutton-tea, or something of the kind, may always be kept at hand warm, and it is wonderful how refreshing it proves to those who are wearied and exhausted by disease, and who lie awake in the early morning, ready to "sink through the bed," from sheer weakness. They will often go to sleep directly after having had warm and strengthening refreshment. Even a cup of tea or of coffee, at such times, will soothe, and comfort a patient, and therefore, the means of procuring these readily should always be available.

FOOD WARMER AND NIGHT LAMP CLOSED.



FOOD WARMER AND NIGHT LAMP IN USE.

A very interesting paper, we think, might be written, upon the cravings of sick people, for different kinds of food and drink. Some cravings are no doubt *morbid*, but others are no less *intelligent*, and are to be looked upon as indications of the wants of the system during the progress of different diseases; at all events, the practical rule is, that the nurse should observe all the patient's cravings of this sort, so as to be able to report them to the medical man, who may, in this manner, receive many a valuable hint as to the treatment to be pursued.

Some people have the idea that calf-foot jelly is one of the most nutritious articles that can be given to a sick person; consequently it is, and has been in great favour in the sick-room, and has almost been looked to as a sovereign remedy in cases of desperate weakness. Others have gone so far as to state that *it has no nutritive power whatever*. The truth, however, lies as usual, between the two extremes. Pure gelatine, if given alone without any other article of food, has no power to support life; but when given *along with others* it is a substance which helps to build up, and to supply the waste from the animal frame. Moreover, it is a convenient vehicle for wine and for nutritious articles of food. Sometimes, and in many diseases, it is agreeable to the patient, and easily taken, so that there is no reason whatever why this old favourite should be entirely banished from the sick-room, as suggested by some people.

NUTRITIVE CLYSTERS.—It occasionally happens that food of any kind whatever, is rejected for a time by the stomach. This occurs in disease of the organ, and in the course of other affections, after severe operations, &c. In such cases (generally of great extremity) it becomes necessary to nourish the body by means of fluids, introduced into and absorbed by the lower bowel. Beef-tea, milk, brandy or wine, and other like substances, are given in this way. The great rule to attend to is not to give them quickly, otherwise they are sure not to be retained till any quantity is absorbed. They should be given slowly, and without causing any irritation. An ordinary enema tube of any kind, may be used—the simpler the better. Difficulty of retention may be counteracted by the addition of five to ten drops of laudanum if admissible. Such clysters too should always be small in bulk.

MEDICINES.—It need scarcely be said that the first duty of the nurse, as regards medicines, is to attend to the regularity with which they are given, seeing there are many remedies which, unless given according to system, do not present their characteristic action, and, consequently, the design of the physician is frustrated. In most diseases, however, sleep is of the utmost consequence, and, as a general rule, it may be said, a patient should never be aroused from slumber on account of his medicine, which may be given to him as soon as he awakes. Medicines are disagreeable at any time, but they are much more so when a person is roused from a refreshing sleep to have them administered.

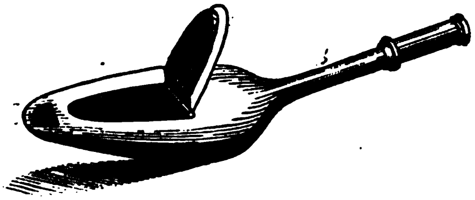
As regards sedative or soothing draughts to be given at bed time, one caution is necessary. Unless the patient is kept perfectly quiet, and nothing extraneous allowed to disturb him, the effect of the sedative draught will be to excite instead of compose him, therefore it should never be given till all preparations for sleep are completed.

Medicine is generally given to produce some effect which can be observed by the senses, it is therefore of the first necessity that the nurse should mark this, and be able to communicate it to the medical attendant at his next visit. For instance, some medicines are given with a view to produce sleep or perspiration, or increased action of the bowels or kidneys, and the effects of prescribed remedies in these aspects must all be carefully noted by the nurse.

When medicines are ordered in drops, it is better to avoid the troublesome and uncertain process of dropping from the lip of the bottle; it is well known that fifty drops from one bottle may only equal in bulk thirty drops from another, therefore the drop-measure or minim-metre ought always to be used.

Many substances are employed to remove the nauseous taste of medicine, especially in the case of children, but, as a rule, sweet things, so generally given, are objectionable; and experience has proved that nothing is so effectual as a piece of dry biscuit or oatmeal-cake.

Great trouble is often experienced in administering medicines to children, and where there is more than usual difficulty, the "medicinal spoon," recommended by Dr Anthony Todd Thomson, may be employed.



"It consists of a spoon with a hollow handle, opening at the top, and also into the bowl of the spoon, which is covered with a hinged lid, but is open at the apex. The spoon is made in the form of a wedge, in order to force the teeth apart when resistance is made to its introduction into the mouth, and it is rounded at the corners to avoid injuring the tongue and gums. When any fluid is poured into the spoon and the lid shut down, the pressure of the atmosphere at the opening near the apex prevents the fluid from running out of the spoon as long as the orifice at the upper end of the handle is firmly compressed by the thumb of any person; but as soon as the thumb is removed the fluid is projected with considerable force from the spoon. When the spoon is to be used, the head of the child must be steadied by an attendant, who should also gently compress the nostrils, which obliges the mouth to be opened for the facility of breathing. The spoon is then introduced into the mouth of the child by another person, holding it in one hand, and at the same time keeping down the arms of the child with her other hand. The back of the spoon is then to be gently pressed upon the tongue, and the thumb being removed from the opening of the handle, the air rushes in and projects the medicine into the gullet, whence it is instantly conveyed into the stomach. It is scarcely necessary to say, that this spoon should be regarded only as a last resort, and should not be employed until the physician has endeavoured in vain to persuade the little patient to take the medicine by rendering it more palatable, or has substituted another for it."

It is astonishing how many people, even grown up people, have a difficulty in swallowing pills. Any one, however, can readily acquire the habit by practising with pills made of bread crumbs; and when it is considered how very desirable it sometimes is that medicines should be given in this form, it will be well that any one who suffers from the sort of nervous difficulty alluded to should endeavour to overcome it.

Effervescing mixtures are generally agreeable to the palate of the patient, and are besides often serviceable in allaying irritability of the stomach. Care should be taken to give them while they are actually in a state of effervescence and not when the carbonic acid gas has evaporated, or, in other words, when they are flat. The powder of citric or tartaric acid, or the lime juice, if that be used, should, first of all, be put into the glass; then, when the patient is ready, the dose of the medicine should be poured over it, so that it may be taken while in a state of brisk effervescence.

When medicines are ordered containing chalk, magnesia, or insoluble powders, which by their gravity sink to the bottom of the phial, a label should accompany the bottle directing it to be shaken before each dose of the medicine is poured out. If this is not attended to, all the active ingredients accumulate at the bottom—the patient takes an almost inert mixture for, perhaps, a couple of days, and then gets an overdose at the last. This direction is no less to be attended to in the case of light medicines, lighter than the water in which they are mixed, and which *float at the top of the bottle.* For instance, prussic acid, which is often prescribed in medicinal doses, is apt to float at the top of any mixture containing it, and if the bottle be not properly shaken, as directed, the patient might get too large if not a poisonous dose all at once. Sulphuric ether is still more likely to float.

Any person of intelligence can easily understand that it is impossible to give all the directions necessary for the continued and proper administration of particular medicines upon the label of the bottle; and, therefore, we would caution nurses not to listen inattentively to the directions of the medical man, trusting that they will find it all written out for them there. As an example of what is meant, we may instance the case of a patient taking tartar emetic. The doctor may, perhaps, direct that it is to be discontinued, or to be given in a smaller dose if it causes sickness after the third or fourth dose, while he informs the nurse that he will not be surprised at its causing sickness at first and trusts that it will be taken afterwards without that effect. He may warn the nurse that it may produce undue action of the bowels, in which case he may wish it stopped; or, he may explain to her the exact effect which he wishes to be produced, and may direct the remedy to be continued in a larger or smaller dose, and at a longer or shorter interval. Now it will be seen at a glance that it is impossible to convey all this upon the label of a bottle, and yet the successful issue of the case may depend upon the acumen of the nurse in appreciating, and her skill and faithfulness in carrying out the doctor's orders.

PECULIARITIES OF PATIENTS IN REGARD TO MEDICINES.—It is well-known that some patients are peculiarly affected by certain remedies, and it is highly desirable that any such *idiosyncrasy* should be reported to the physician if it is known from former experience to exist. There are patients who cannot take certain remedies at all without experiencing peculiar effects quite foreign to the usual recognised action of the drug. For example, opium in some persons causes intolerable itching of the skin, or spasms of the stomach, or sleeplessness; and ipecacuanha acts upon some persons in the same way as if they were affected with what is known as hay asthma or hay fever (see article on that disease in the Appendix). Again, it not uncommonly happens that a remedy which ought to act, and which does generally act, say, upon the kidneys, shows a tendency in some persons to "run off" by the bowels, and so forth.

SHOULD PRESCRIPTIONS BE WRITTEN IN ENGLISH?—It was pretty generally thought that when the New British Pharmacopœia (see Appendix) was introduced, one of the improvements recommended would be that all our prescriptions should be written in the native tongue, but this did not appear desirable to the promoters of that work, after a great deal of evidence had been taken on both sides of the question from high authorities in the profession. The great advantage of having all prescriptions in Latin, is that they can be made up at any chemist's at home or abroad, and can be read by doctors of all countries. Moreover, it is often desirable, in the case of weak-minded, ignorant, or, still more, hysterical people, to conceal from them the nature of the medicine they are using, else they will fancy that it has some effect upon them which they had been led to expect, but which exists only in their imagination. So strong and powerful is this imaginative faculty in some persons, that the medicine will actually have such an effect upon them if they take, and very often whether they take it or not. Bread pills, when prescribed as mercurial pills, have been followed by salivation, and other symptoms common after taking mercury. Ladies who have declared that they could not take opium in any shape or form without the most disastrous consequences, have enjoyed a sound night's rest and freedom from all their troubles, when it was prescribed for them under some other name, and have experienced all the dreaded effects they expected from some perfectly inert prescription, when told that it contained opium. No doubt there are people who are affected by drugs after the most peculiar and abnormal fashion, but those exceptions are much rarer than is thought. In France all the prescriptions are written in French, and the plan has been found to work well. On the whole, perhaps, it may be said that the advantages and disadvantages of Latin and English prescriptions are pretty equally balanced, and it is a matter more to be settled by medical practitioners and druggists, than by the general public, who ought to be satisfied if their remedies are properly compounded and the directions plainly written in English upon the labels. It is a common thing to sneer at the dog-Latin contractions and hieroglyphics of medical Latin, but those who daily prescribe for large numbers of patients know from experience that it is absolutely necessary to employ all manner of contractions, and whether the prescriptions are written in English or Latin, these would still be used.

INSPECTION OF THE STOOLS AND URINE BY THE MEDICAL ATTENDANT.—In some cases it is not at all necessary for the physician to see the excretions of his patient, and it may be remarked, by the way, that some fussy people have most ridiculous notions on this subject, and seem as if they scarcely thought the doctor had earned his fee without examining the mysteries of the night stool on every visit. But, on the other hand, cases constantly do occur in medical practice, where it is absolutely necessary that the excretions should be inspected, and others where, in addition to this, their quantity must be noted from day to day. These details must not be looked upon by the attendants of the sick-room as in any way derogatory or offensive, because upon a proper performance of them may depend the issue of the case for life or death, inasmuch as without them it is quite impossible for the physician to have any idea of the effects of those powerful remedies which he is using to stop, to promote, to diminish, or to increase any one or more of the excretions of the body. Let us give an example of this :—In the well-known disease diabetes, powerful remedies are employed and an entirely peculiar form of diet prescribed, in order to check, if possible, the enormous amount of urine containing sugar which is draining away the patient's strength day by day. It will be necessary, probably, to weigh the patient, so as to judge whether he is gaining or losing flesh; and, in addition to this, to note daily the amount of his excretions, part of which will be directed to be preserved, so as to be tested by the medical man. It is found that such patients improve under one plan of treatment and retrograde under another; it will, therefore, be easily seen how important it is that these details should be so carried out that the progress of the case for better or worse may be determined. Another example—In all forms of dropsy, but especially in that depending upon Bright's disease of the kidneys, a daily note should be kept in a book or in a paper suspended by the bedside, of the amount of the patient's excretions; that is to say, at all events, of the quantity of the urine and of the number of the stools; for by this means the physician can see at a glance how his patient is being affected by the diuretic or purgative medicines which are given to remove the dropsy.

On daily noting the quantity of the urine in particular diseases, it will be necessary to remark, for the guidance of the physician, whether the patient has perspired profusely or has had diarrhœa, because without these careful observations the diminution in the quantity of urine, which will probably coincide with them, might be put down to the agency of remedies instead of the real cause.

INSPECTION OF VOMITED MATTERS AND OF EXPECTORATION.—It need scarcely be said that all vomited matters and everything which is spat up or "hawked up," should be preserved most carefully for inspection, instead of being thrown away, as is too commonly the case. No amount of description from a non-professional person can take the place of inspection, seeing it requires special training and education in order to observe these things to any purpose, and to be able to discover their exact nature.

None of the excretions are to be kept *in the sick-room*, but are to be preserved for inspection in a porcelain or metallic vessel, with a cover of the same material; either in the open air or in an outhouse; or, at all events, in another apartment, the windows of which should be kept open if possible. The importance of this rule will be admitted when it is reflected that in most contagious diseases the exhalations from the patient play the chief part in propagating the malady—and in the disease known as gastric, typhoid, or enteric fever (see Appendix), it is by *the stools* that the fever is communicated. When it will not interfere with the examination, a little of some disinfecting or deodorising fluid may be put in the bottom of the night-stool or bed-pan (see Appendix, article "Disinfectants"); or, at all events, they can be washed or rinsed out with it each time after being used.

SYSTEM AND MANAGEMENT OF DETAILS.—It invariably happens that when the care of a sick person is undertaken without proper arrangements being made as to the economy of time and strength, there is a waste of both, and the attendants are knocked up and thoroughly unable to perform their duties, while the sick man is neglected, and everything goes wrong. It is not to be supposed that any nurse can remain with a patient and perform the duties required of her day after day, and night after night, without intermission. It is simply absurd to expect it, and yet how many people practically do so, or at all events, which is quite as bad, neglect making the proper arrangements for a change of attendants. In hospital practice, of course, every provision is obliged to be made for this, and consequently there is a staff of day nurses, and night nurses, or, what is still better, those who are engaged throughout the day for a week at a time take a turn at the night work, and *vice versa;* but in private practice, when people engage a nurse they seem to expect that if they require her services during an illness, she will be at her post night and day. Now, as we have said before, this is simply impossible, and therefore it will be necessary that the nurse must sleep or have leave to go to bed, either during the day, or during the night. In critical cases it is important that a person of experience should be with the sick during what are called the small hours, that is to say, early morning, because it is well known that at such times there is a liability to great depression of the vital power. With regard to a substitute, however, one point deserves special attention: it is absolutely necessary that when she goes upon duty, and undertakes to be responsible for the conduct of the case, she should receive instructions of the minutest kind upon all points as to medicine, food, &c., and not only so, but that she should receive at the same time information as to all that has lately taken place, so that in the event of the medical man making a visit in the interval, she need not reply to any of his queries "I don't know,"—or, "the nurse never told me." The nurse should be particularly careful to give to her substitute the minutest information as to everything that has taken place since the last visit of the doctor, and when the substitute goes off duty again, she should in her turn report to the nurse everything that has occurred during her absence. In this way responsibility is not divided, and the doctor is enabled, as he is always entitled, to receive from one person, the person who is on duty at the time, full particulars as to the progress of the case. It is very aggravating when the doctor puts such a question as—Has he had any fits since I was here? that the nurse should reply, "Not when I was with him, sir," forgetting that it is the nurse's duty to know and to be able to report everything that has taken place.

Many cases come to a bad and unsuccessful issue through neglect of the golden rule that one person, and one only, should be responsible for the conduct of the sick room. For instance, how will it be possible, if there are several people in a sick room, to maintain quiet and order, unless one is in charge, and has authority to dictate as to the treatment of the patient, and to see that the orders of the doctor are carried out. It may be that one of the patient's friends, either not knowing, or, in his or her self-conceit, not approving of the directions of the medical man, may fancy that a patient who was ordered to be kept quiet, would be the better of a little cheerful conversation, or that some new method of treatment might be entered upon. None but those accustomed to sickness can have any idea of the popular prejudices and fallacies with regard to it, or form the slightest notion of the confidence with which advice is tendered by those who are ignorant of the premises, and are utterly incompetent to give any opinion upon the question. In Miss Nightingale's "Notes on Nursing," the relation of the sick man to his advisers is thus humorously put forth—"My advisers! their name is legion. . . . Somehow or other it seems a provision of universal destinies that every man, woman, or child, should consider him, her, or itself, privileged specially to advise me. Why? That is precisely what I want to know—and this is what I have to say to them. I have been advised to go to every place extant, in and out of England—to take every kind of exercise, by every kind of cart, carriage—yes, and even swing! and dumb-bell! in existence; to imbibe every different kind of stimulus that ever has been invented. And this, when those *best* fitted to know, namely, medical men, after long and close attendance, had declared my going out of the question, had prohibited any kind of motion whatever, had closely laid down the diet and drink. What would my advisers say were they the medical attendants, and I, the patient, left their advice and took the casual adviser's? But the singularity in Legion's mind is this, it never occurs to him that everybody else is doing the same thing, and that I, the patient, *must* perforce say, in sheer self-defence, like Rosalind, 'I could not do with all.'"

The absurdity of the nature of the advice and confidential communications which are daily tendered by the public to their sick friends, is further aptly illustrated in a foot-note of the work above quoted, at page 55—"I have heard a doctor condemned whose patient did not, alas! recover, because another doctor's patient, of a *different* sex, of a *different* age, recovered from a *different* disease, in a *different* place. Yes, this is really true. If people who make these comparisons did but know (only they do not care to know) the care and preciseness with which such comparisons require to be made (and are made) in order to be of any value whatever, they would spare their tongues. In comparing the deaths of one hospital with those of another, any statistics are justly considered valueless which do not give the ages, the sexes, and the diseases of all the cases. It does not seem necessary to mention this; it does not seem necessary to say that there can be no comparison between old men with dropsies and young women with consumptions, yet the cleverest men and the cleverest women are often heard making such comparisons, ignoring entirely sex, age, disease, place—in fact, all the conditions essential to the question. It is the merest gossip."

It will be granted that all such feeble counsellers and advisers should be rigorously excluded from the sick-room, and the person of authority over it will do well to keep them in remembrance, for they are a most intolerable nuisance to the sick man.

. It seems scarcely necessary to say, that while strangers, gossips, and busy-bodies are kept strictly in check—it will often, also, be necessary in special cases to keep a watchful eye upon the admission of certain letters and newspapers (not to say telegrams and messages), which might contain intelligence often of an alarming or depressing nature. Bad news is always depressing, but especially so to the sick, who when capable of being interested in conversation should, if possible, be regaled only with topics of a light and cheerful description, and should be encouraged to look forward to the prospect of a happy future for themselves and for those in whom they take an interest.

FLOWERS IN THE SICK ROOM.—There exists in the minds of many, a popular, though an ill-founded, prejudice against flowers in a house, the idea being that they exhale poisonous odours and are detrimental to health, but this is not the case; and although flowers with a heavy sickly odour should never be admitted into a house at all, those of a brilliant and pleasing colour, either with or without agreeable odours, are always much appreciated by the sick. In some of our large and best conducted hospitals, flowers are regularly arranged in the wards. They are sent by railway by some of the country families in the neighbourhood from their conservatories, packed in tin boxes, and we feel quite sure that the liberal donors would be more than repaid if they could witness the joyful and eager looks of the pallid faces clustering around the newly arrived box and bestowing words and glances of heartfelt admiration upon its treasures as they are one by one drawn forth.

People who live a great deal in the country can scarcely form any idea of the instinctive longing for, and the intense pleasure felt at the sight of plants and flowers of almost any description, which is experienced by the weary and careworn artizan who spends every day of every year in the midst of our large manufacturing towns. Those who live constantly amongst and every moment of their lives breathe an atmosphere contaminated by dust, and smoke, and foul air, have the keenest delight at seeing and smelling a flower, which may recall to them some loved scene of their childhood, and may serve to awaken the highest and purest feelings, as well as help others to forget, for a time, the scene of their present weary toil. It has been found, then, that the patients in the large hospitals of our crowded towns have derived great benefit, both mental and bodily, from the introduction of flowers into the sick wards, and we feel sure that every medical man of experience will acknowledge that their presence in the sick-room, especially of a town patient suffering from a chronic disease, is, perhaps, one of the most valuable adjuvants to his treatment that he can possess. Flowers of a brilliant red colour have an exhilarating effect upon the mind of the patient, and should always have a preference given to them when there is a choice.

PICTURES AND PRINTS IN THE SICK ROOM.—Several years ago, in some of the leading papers, the attention of the public was drawn to the fact, that the poor in our large hospitals were confined in the most cheerless wards or rooms, absolutely without any attempt at decoration; and it was suggested that private families might make a very acceptable donation to the governors of hospitals, by presenting them with prints, pictures, &c.—chromo-lithographs, or those of a brilliant colour, being thought preferable. It was objected to this, *mirabile dictu*, even by some of the most eminent of the profession, that the presence of pictures in the wards was apt to suggest images to the mind of the sick man, which might, at certain seasons, serve as food for his delirious fancies. It has now been proved by experience, however, that this is not the case, and that a patient is much more likely to conjure up for himself, at a time of delirium, frightful images from the bare walls by which he is surrounded, than from any of the beautiful and interesting objects with which they may be clothed. We, therefore, strongly advocate pictures for the sick room, and would decidedly give a preference to those with a pleasing and simple subject, and to such as represent familiar incidents in domestic and social life. Even for the poorest class of patients such may be most readily obtained at a trifling cost; as, for instance, the large chromo-lithographs published by the *Illustrated London News*. They may be either hung up as they are, or pasted upon a card board and varnished, or, which is of course better though more expensive, framed and glazed.

During convalescence from illness, there is often a tendency in some patients to despondency and depression of spirits accompanied by loss of appetite, and at such times when they are confined to the sick room, and can't be allowed to go beyond its door, it is surprising how their recovery may be hastened, and their imprisonment rendered endurable, if not agreeable, by a little attention to the *æsthetics;* not the least of which is to furnish them with nice books, pictures, flowers, &c.

For children, pictures are more especially necessary, not only on the walls, but they must have picture books which they can turn over leaf by leaf for themselves. This keeps them employed and amused, and is a great economy of the nurse's time and strength. The picture books should be made of calico, or some other material which cannot be easily torn, if they are to be given to young children.

THE WALLS OF THE SICK-ROOM.—Several points require special attention upon this head, in the choice of a sick room. In the first place, green papers are to be avoided, as many of them contain arsenic in quite appreciable quantity, and the exhalations from them being breathed night and day by the patient, may give rise to poisonous symptoms. Secondly, papers which have been put on with bad size, or which have a nasty smell, are noxious in the extreme. A room, the walls of which are oil painted, and which can consequently be well dusted or washed, is perhaps the most suitable that can be found in a private house. In hospitals and large establishments, where the air is much polluted by emanations from the sick, the best walls are those which are made of glazed tiles, or of some material which will allow of their being well swilled or washed when the ward is cleaned.

CARPETS.—Were it not that it is desirable to keep the sick-room as quiet as possible, we should recommend that carpets should be altogether abolished from it, and that the floor should be a highly polished one, so that the dust and any impurities can be thoroughly removed from its surface. Such a floor does not, like a carpeted one, afford a *nidus* for the accumulation of morbid poisons, and is much more easily cleaned. But if the carpet is to be done away with, it is quite necessary that some matting either of India-rubber or other material, be used upon those parts which the attendants must necessarily traverse, otherwise the noise is disagreeable. If neither carpet nor matting is used, list shoes or slippers must be worn by the attendants, and several large pairs kept outside the door to be worn over the boots of any one who comes in.

SCRUBBING THE FLOORS.—A great deal of discussion has lately taken place amongst medical men, as to the respective merits of scrubbing and dry rubbing, and some have gone so far as to state that hospital gangrene and other disastrous diseases, have been originated and kept up by the emanations from a floor after being washed. Acting upon this idea in certain hospitals, no scrubbing of any part whatever has been allowed, except at certain periods of the year, when the patients were removed from the wards. The floors were ordered to be daily rubbed and polished after being swept, and it has been asserted that by the adoption of this plan the wards have been maintained in a healthier condition. At all events, it will be well to remember that a patient should, if possible, be removed from the sick-room while the floor is washed, since at such times the damp and unwholesome air is apt to be impregnated with peculiarly hurtful impurities.

OBSERVATION AND COMMON SENSE.—To the observant man there is scarcely a study more interesting than that of the "human countenance," under all its varying aspects and conditions; and while we can generally form a pretty accurate estimate of the character of the individual from the study of the face, it is no less certain that the "physiognomy of disease" is a study, the importance of which is being more and more realized day by day, and one which will thoroughly reward not only medical men but also the attendant upon the sick-room. As an illustration of this, we may instance the remarkable fact, that if you take an intelligent physician into the sick ward of an hospital, and allow him to walk down the centre of the room and glance attentively and observingly at the countenances and attitudes of the different patients, while no doubt he will also listen to their breathing, and perhaps make numerous other little observations almost unconsciously to himself of which you are ignorant, he will be able to form a tolerably accurate idea of the diseases from which they are suffering. It is not impossible, we will say, for a physician in this way to make what is called a correct "*facial diagnosis*" of the diseases of perhaps 18 out of 20 patients. This shews how much is to be done by cultivating the faculty of observation with regard to the sick. One who has been taught to observe, in the best sense of the word, can tell almost at a glance whether his patient is better or worse, and reads with a wonderful certainty the happy signs of recovery, or the sad approach of death.

The sick-room attendant ought to be able, as the result of observation, to know when the patient is asleep or awake, in pain or at ease, when his breathing is oppressed and difficult, when he is low and faint and requiring nourishment or stimulus, when he wishes to be let alone, &c., &c. These points are of even more importance as applied to the nursing of children, who are unable to make known their wants, or to describe their symptoms. (See article in the Appendix—"Nurses for the Sick.")

There is another kind of observation which one might call surgical observation, inasmuch as it is more to be exercised by surgeons or by surgical nurses, but which is a great advantage in the sick-room. For instance, one who has been taught this kind of observation knows at once, at a single glance, whether a wound is healing or not, whether it requires a cleansing poultice or a stimulating dressing, whether a fractured limb is lying in its proper position or not. As to the observation of wounds, it is marvellous how experienced nurses, by keeping their eyes open, acquire a skill in the treatment of them, and know when and how to apply particular dressings so as greatly to expedite the healing process. An ignorant person, when no medical man is at hand, will go on applying substances to a sore which can never heal it, but only keep it open and make it worse, whereas a skilled and observant one can recognise and apply the appropriate remedy.

During convalescence, and throughout the progress of disease, relapses are oftentimes to be feared, and it is an important part of the duty of an intelligent observer of the sick bed to note those appearances which indicate their probable appearance as well as to take every precaution against them.

It is of the first importance that a nurse should accustom herself to *accuracy* of observation, so that when she has to make her report to the doctor she may not use vague and indefinite expressions, such as, the patient has slept "a good deal, sir, to-night," or, "his bowels have been open a many times;" but the answer ought to be expressed in figures, as, for instance, the patient has slept three, four, or six hours, as the case may be, or his bowels have been moved once, twice, four, six, or eight times. As near an approach as possible to the actual state of the fact must be reported, else nothing but confusion can ensue, since it is obvious that what one nurse might think a good night another might consider a bad one, and what will appear excessive to one nurse might be deemed nothing extraordinary by another. It will be needful to employ the same accuracy of speech, thought, and observation, as regards the eating and drinking of the patient, and it will not do to tell the doctor that he has a good appetite merely, since people's ideas as to a good appetite are apt to vary, and unless a doctor actually sees the dinner that is consumed by his patient he ought to be told, in cases where such particular inquiry is necessary, the exact quantity, or as near it as possible, of ounces of meat, or whatever it may be, that the patient is able to take.

It may be said here that the nurse must tax her own memory, and not that of the patient, with the proper answers to such questions, since it is cruel to make the patient think for himself at all; in fact, he should be allowed the luxury of caring for none of these things, since entire rest of mind as well as of body may be quite essential to his recovery. It is very aggravating to hear a nurse, who ought to know better, and to whom it has been carefully explained that quiet of mind is necessary for her patient, always referring to him and saying, "you had a nice sleep at 12 o'clock, had you not, sir?" and so on.

What we want, then, to impress upon the nurse's mind, is that she must be accurate in making her observations, and that she must report them herself. If her memory is treacherous, we would recommend that she should note down *facts* upon a slip of paper, and she should remember that the *facts* only are valuable, and that her *opinion* is of no value whatever to the medical man when compared with them. With regard to this subject, we may be allowed to quote again the following practical remarks from Miss Nightingale's "Notes on Nursing":—

"In diseases which have their origin in the feeble or irregular action of some junction, and not in organic change, it is quite an accident if the doctor who sees the case only once a-day, and generally at the same time, can form any but a negative idea of its real condition. In the middle of the day when such a patient has been refreshed by light and air, by his tea, by his beef-tea, and his brandy, by hot bottles to his feet, by being washed, and by clean linen, you can scarcely believe he is the same person that lay with a rapid fluttering pulse, with puffed eye-lids, with short breath, cold limbs, and unsteady hands, this morning. Now what is a nurse to do in such a case? Not cry "Lord bless you, sir; why, you'd have thought he were a dying all night." This may be true, but it is not the way to impress with the truth a doctor more capable of forming a judgment from the facts, if he did but know them, than you are. What he wants is not your opinion, however respectfully given, but your facts. In all diseases it is important, but in diseases which do not run a destined and fixed course, it is not only important, it is essential that the facts the nurse alone can observe, should be accurately observed, and accurately reported to the doctor."

Without observation acquired by experience, scarcely anyone can tell, with any approach to certainty, whether a patient is better or worse, or whether death is near; but to those experienced in such matters, the countenance of the patient speaks a language which is quite unmistakable. By those who are not versed in this kind of observation, patients are often thought to be worse when they are actually better, and *vice versa.*

The signs of dissolution must be seen in order to be understood. The countenance of approaching death was so thoroughly well described by Hippocrates, the father of medicine, that it is common amongst medical men to talk of the *facies Hippocratica.* Of course, it is not the countenance alone that is to be depended upon, but the general aspect of the patient, modified by his general constitution and temperament, as well as by the symptoms of the disease from which he has suffered, or is suffering. In Miss Nightingale's "Notes on Nursing," she thus describes the effects of the approach of death upon the appearance of persons of different temperaments:—

"It falls to few ever to have had the opportunity of observing the different aspects which the human face puts on, at the sudden approach of certain forms of death by violence; and as it is a knowledge of little use, I only mention it here as being the most startling example of what is meant. In the nervous temperament the face becomes pale (this is the only recognised effect); in the sanguine temperament, purple; in the bilious, yellow, or every manner of colour in patches. Now, it is generally supposed that paleness is the one indication of almost any violent change in the human being, whether from terror, disease, or anything else. There can be no more false observation, granted it is the one recognised, being as I have said—*de rigueur* in novels, but nowhere else."

It has happened that a nurse, or attendant upon a sick person, has been required to give evidence in a court of justice, with regard to the symptoms of the patient's illness, and to the action and effect of the remedies prescribed. Under such circumstances the importance of registering and attending to facts, instead of theories, will be forcibly demonstrated. In cases of sudden death, and where a person has been found dead in bed, evidence may be required of the nurse as to the appearances presented. When a new-born infant dies at the same time as the mother that gave it birth, important civil rights may depend upon the question as to which lived the longest, and the evidence of a nurse may also be taken as to whether the child ever lived at all. In cases of death owing to suspected criminal abortion, suspected infanticide, as well as in all deaths by or from accident, suicide by drowning, by hanging, by strangling, or by suffocation of any kind, evidence may also be required from the attendants or bystanders: in cases of death by starvation, or from extremes of temperature, from cold, from heat, by lightning, &c. The same remark applies to deaths by violence, and the nurse may be questioned, and may be required to give answers, so far as her ability lies, as to the nature, appearance, and apparent effect of wounds of the head, neck, chest, abdomen, or extremities. Questions may be put as to the appearance of marks of violence upon the body, the appearance presented by the garments, the detection of spots of blood, or any other circumstance calculated to be of weight in medico-legal cases.

Important questions may also be put as to the mental state and condition of a patient at given times, as to whether he was in his right mind at the time of the execution of some document.

The above remarks are especially to be kept in mind, where a medical man cannot be found, or where he has not the opportunity of making the requisite observations.

HOW TO ACT IN CASE OF ACCIDENT.—The proper disposal of the sick-room for the reception of accidents, as soon as possible after their occurrence, is of great consequence, so that the patient may at once be placed under circumstances the best adapted for his recovery, and the least likely to cause him pain or inconvenience.

Let us suppose the case of a shattered or fractured limb. The accident will probably have occurred at some distance from the house, and the patient will have been brought along on a litter, or in some conveyance, in such a position as to rest as much as possible the wounded part. If the hand be shattered, or the arm, it is generally best to bend the elbow at right angles, so as to relax the muscles, to support it in a broad sling and lay it across the chest. If the leg be the part injured, it should be bent or flexed at the knee joint, also to relax the muscles, and laid upon its outer side (if this position be not incompatible with the state and condition of the injured parts). It may be laid upon a board, or a tray, or a pillow, or anything that will support it and can be easily moved along with the limb; as, for instance, in removing a patient by means of a carriage, or by railway, from the scene of accident. Bleeding seldom occurs in shattered or fractured limbs to such an extent as to endanger life, simply from the fact, that the blood-vessels are torn instead of cut through, so that the application of cold, or the mere exposure of the wound to the air, will generally suffice to arrest the hemorrhage. Failing this a tourniquet must be applied over the main blood-vessel, or a handkerchief, or bandage may be passed round the limb, and tightened by means of a stick twisted into it. The effect of this will be greatly increased by placing firmly a pad under the bandage over the situation of the leading blood-vessel, if that is known or can be felt beating by the fingers. A bleeding limb should always be held as high as possible. The bleeding part rather exposed to the air than covered with a number of cloths, as is the popular custom. If cold is applied, it should be by means of a single cloth, which may be either frequently renewed, or a gentle stream of cold water may be kept playing upon the wound. These precautions, as to bleeding, will be much more necessary in the case of incised wounds where the cut ends of the blood-vessels bleed with great activity. It is to be remembered as a golden rule, that almost all bleeding, even of the most urgent kind, can be checked for a time, or, at all events, till the arrival of the medical man, by direct pressure applied to the part, either by the fingers, or by a pad of lint, or a dry sponge.

Another rule is always to keep a limb which is broken, in a natural, easy, or relaxed position, otherwise, from the action of the muscles, the ends of fractured bones may be forced with violence through the skin, or may injure blood-vessels, and may convert what was a tolerably simple into a very severe injury.

Should severe shock and depression of the system supervene after an accident, wine and water, or brandy and water, may be freely given at once, and if there are any symptoms of coldness of the extremities and shivering, warm bottles, heated blankets, hot bricks, or bags of hot salt, should be applied.

Let us suppose, now, that the patient has been carried from the scene of accident to his own house, or to the room where he is to be laid up. The first thing to be done is to choose a good room, according to the principles laid down in the beginning of this article; a well ventilated, and well managed sick-room being quite as essential to the healing of a wound as to recovery from sickness. In case an operation should be required, a room should be chosen with a good light, or if artificial light is required several good tapers should be provided, and the bed so disposed that it can be easily got at and easily lighted up.

The next thing to be done is to arrange the bed properly, and in doing this, reference should be had as to whether it is the right or left limb that is injured and that requires to be treated. If the patient is suffering much from the shock, or from cold, the bed should be warmed. A Macintosh, or piece of waterproof material should be arranged under the wound, so as to protect the bedding from blood and discharge, and when it is desired to irrigate a wound, the Macintosh should be large, and so disposed as to allow the current of water to escape over the bed into a vessel placed for the purpose of receiving it.

Everything now being in readiness, the patient is to be got into bed, and in getting him in it will be necessary to remove his clothes, an operation giving great pain to the patient unless properly conducted. They should be slit up the seams and cut off where necessary, so that the wound may not in any way be dragged upon, and in this manner they may be removed, as it were, in one piece, even when there are the most painful and extensive injuries, without any pain or inconvenience. While all this is being done, it should be the duty of one person to attend to and hold the injured part, and to support it in a relaxed position, which is one of ease to the patient. When all the clothes are removed, a night-shirt may be put on; and if it be the arm that is injured, the corresponding arm and shoulder-piece of the night-shirt may be slit open. The patient is then to be placed in bed, and the limb, being still held by the person in charge, deposited safely on a pillow, or otherwise, in the required position. Some loose tow or cotton wool may be placed around it, to absorb the blood if there be any, and care must be taken to prevent the weight of the bed-clothes from pressing upon it, either by means of a "cradle," by pillows, or by supporting the bed clothes in any other way. The wound must be looked at every now and then till the arrival of the medical man, in order to ascertain if there is any bleeding; and if there is much shock or faintness from previous loss of blood, stimulants must be freely administered.

In cases of accident from drowning, the reader is referred to the article in the Appendix, and references are also to be made to the articles—Fracture, Bandage, Hemorrhage, Dislocation, Suffocation, Poison, &c., &c.

In cases of injury to the head, or of suspected fracture of the cranium, the patient may be quite insensible, and consequently such patients are often much tumbled about by those who remove them and who put them to bed; but the most serious accidents have resulted from want of care in this respect, and it has happened that bleeding inside the skull which had been temporarily arrested, has been made to burst out afresh, with a fatal result, owing to nothing more than rough handling.

Wounded parts which are very painful and uncomfortable in any position, may be placed upon a water pillow, the yielding and undulating surface of which readily accommodates itself to them, and does away with the effects of pressure.

THE ARRANGEMENT OF THE SICK-ROOM FOR, AND THE DUTIES OF THE ATTENDANTS AT, A SURGICAL OPERATION. — Surgical operations may be classified into two kinds: *primary* and *secondary*, that is, those undertaken at once in a case of accident for the removal of injured limbs, for the arrest of urgent bleeding, &c., and those, on the other hand, which are undertaken deliberately for the removal of diseased parts, which may have been more or less affected for weeks, months, or years. Now, although an operation must be always a dreadful and formidable thing when it is necessary that it should be performed in a private house, it is still more dreadful when it comes under the head of the first of the two classes. The accident may have happened in a moment of time and in the simplest manner possible, and yet it may have hopelessly destroyed a fair working limb, upon which may depend the subsistence of the sufferer and that of his wife and family. We will suppose that the surgeon, after anxious deliberation as to what is best to be done for his patient, has decided upon an operation. In any private house, however well-conducted, there will be a great many arrangements to make, a great many orders to be given, a great deal of hurrying to and fro, and the safety and welfare of the patient will in some measure depend upon the coolness, promptitude, and common sense of those who may be called upon to assist. In country districts, and in places generally, where medical men are not easily found, assistance of the most important kind may be demanded of those who would otherwise shrink from such a duty, but the demand for their services is urgent, and with coolness and readiness, excellent service may be rendered on an occasion, even by those quite unaccustomed to such matters. What is especially to be avoided, is all hurry and bustle. In the excitement of the moment every new idea is acted upon hastily without reflection, and from want of deliberation in the making of plans and arrangements, things are forgotten and overlooked till they are wanted; therefore, at such a time, more than at any other, are we called upon to observe the time-honoured injunction, *festina lente*.

The following articles should be provided and laid out ready for an operation, whatever it may be—Two long vessels, pitchers, buckets, or cans, one containing cold and the other hot water; two or three small basins, which are to be supplied from the above when required. These basins should never be quite filled with water when they are to be used, but only half filled, or even not quite so much.

Three or four, or more sponges. These should be soft and should be well wrung out of hot water before they are used. A large sponge, if suitable, may be cut or torn up, so as to make several small ones.

A number of napkins will be required, and should be folded and arranged on a table close at hand.

Wine and brandy should always be ready in case of faintness, and should also be placed upon a table close by.

The operator's instruments should all be neatly laid out on a tray, covered with a napkin before the commencement of the operation, so that they may be handed to him when required. The assistant, whose duty this is (if not accustomed to it), should learn the name of the different instruments so as to know at once which is meant when it is asked for.

And now that all the different articles to be required are arranged, everything will be ready for the removal of the patient.

Minor operations are generally performed while the patient is in bed. The large and the capital operations, as well as those requiring great delicacy of manipulation and very good light, should be always performed upon a table. This should be of a convenient length and very stout, it should be covered with a blanket, and over this a piece of Macintosh cloth, or a piece of red blanket cloth. A shallow box containing saw-dust should be placed beneath, to absorb any blood which may drip down, and a pillow or two should be placed to support the head and shoulders. Above all, it is necessary to have good light.

In removing a patient from his bed to the operating table, the utmost care and discretion is necessary, and this will generally be superintended by the medical man, who, if chloroform is to be given, very often commences its administration before the patient is subjected to the pain and irritation of being moved.

In the case of a limb being injured, or a joint diseased, or in cases of large tumours of the extremities, it can easily be understood that great pain and even injury may be consequent upon the slightest movement, therefore, we again repeat that one person should devote his attention exclusively to the management of the diseased or injured part, and while others are removing or raising the body, he will move or raise the limb in his charge simultaneously with them, and endeavour to lay it in as easy a position as possible, and to do so with as little pain and inconvenience to the patient as he can.

When several persons are engaged in lifting or moving a patient, they must act in concert, that is, they must all lift at the same time, or else the patient is sure to be the sufferer. Nothing is more aggravating than to see this clumsily done, as happens when one lifts after another, and each tugs at the patient without any other effect than to cause him pain. One person should support the patient's head, one each shoulder, and one at each hip, while another lifts the feet, and another, as we have stated above, devotes his whole attention to the diseased or injured part.

Each of the attendants, before the operation commences, should have a particular duty assigned by the medical man. For example—Several will be required to restrain the patient's movements; and here it may be said, that at what is called the stage of excitement during the administration of chloroform, patients may require as much, if not more, forcible restraint, than when no chloroform is given at all. One attendant should take charge of the hands and arms, another of the body, and another of the legs and feet. If the patient is very powerful, one should have charge of each arm and each leg, and so on. Another attendant may be directed by the medical man to wring out and hand sponges. These are used to sponge away the blood, in order to enable the operator to see distinctly what he is doing, therefore he requires them frequently changed when they become saturated with blood. Another assistant may be directed to look after the hot and cold water and towels, and another may be required for handing instruments, &c.

It seems scarcely needful to say, that *perfect silence should be maintained during the whole time of the performance of an operation.*

Quietness and attention to the wants of the operator, and to the movements of the patient are highly necessary, and mark at once a skilful and valuable assistant.

When the operation is over, the same rules are to be observed as to removing the patient, as those laid down above, and it will be more than ever necessary that one person should take charge of the part which has been operated upon, since bleeding of a dangerous and troublesome kind may arise from its being roughly handled or jarred. The greatest care will be required in placing the patient in bed again, and one grand point to be observed is always to keep the head low, in case of fainting, which is likely to ensue after the operation and after chloroform has been given.

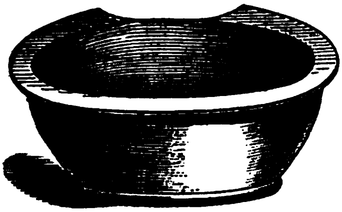
After the patient has been placed in bed, he should not be left alone, because of the dangerous possibility of bleeding, or of the effects of the chloroform, if that has been employed. Generally the part is covered by the bed-clothes, supported, of course, by a cradle, and it will be the duty of the attendant to raise them from time to time, to examine if there be any tendency to bleeding, and to see if the part be lying comfortably. A stump will generally be arranged by the surgeon upon a pillow or some other support, but after he has left, troublesome and painful involuntary movements or twitchings not unfrequently take place, and these must be counteracted by pinning a soft, light handkerchief, or a piece of a bandage, to the bedclothes, on each side of the stump or limb, so as to keep it steady.

An opiate or sedative draught is very generally given immediately after an operation, and then it will be requisite to soothe and quiet the patient as much as possible, so as to induce sleep, otherwise undue reaction and excitement are sure to follow.

Now-a-days, even to the most formidable wounds, only the lightest and most simple of dressings are applied, and in many cases nothing more than a strip of wetted lint. If orders are given by the surgeon that this is to be constantly kept moist, either the irrigating apparatus, described in this article, should be used, or it may be damped from time to time, by dipping a sponge or rag into cold water and allowing it to drop upon the dressing till it is saturated. The drops should not be allowed to fall from a height, but should be close to the wound, else the effect of the stream of water is too irritating.

For the first few days after an operation, more particularly if it is hoped to obtain union of the lips of the wound, by what surgeons call the first intention (see article, Wound), the dressing or dressings may not require to be moved at all; and, in point of fact, nothing may be required but careful watching and attention to the position of the part. The constrained position in which the patient is sometimes forced to lie, is so irksome and painful, that a skilful nurse will have ample opportunity of shewing her resources, by adjusting pillows and supports, props, cushions, pads, &c. Water pillows and air pillows are invaluable for the support of wounded parts, and ought always to be employed where practicable. A hand or foot, which has undergone an operation, when laid upon an ordinary pillow, even though it be covered with Macintosh, sometimes becomes so hot and painful, and so uncomfortable from the wet and stuffy feeling of the support, that the patient is prevented from sleeping, and suffers considerable uneasiness. This is the time when a water-pillow, *only half-filled, and with cold water*, is found to be of so much service, not only in affording a yielding and comfortable support, but in keeping the part cool. The good effects of these pillows in sloughing bed-sores, can scarcely be over-estimated. (See article, Bed-sores).

When it is required to remove dressings from a wound every day, in order to substitute clean or fresh ones, you will save the patient endless pain and discomfort by attention to one simple rule—viz., soaking them well. Tepid water should be used, that is, water about the temperature of new milk, and the parts where the dressings are adherent to the wound, that is to say, sticking to it by the blood or discharge, are to be repeatedly moistened with water dropped upon them from a sponge, held close to the wound, till they are quite loose, and can be removed without any of that tearing which is as painful as it is unnecessary. This process requires time of course, therefore, if the surgeon directs that the dressings are to be well soaked before his visit, the nurse should commence to do so in sufficient time, and should continue soaking till they are removed, without once allowing them to get dry. This is rather an awkward proceeding in the case of some wounds, because it involves the use of a considerable quantity of water, and if skill be not exercised the bed will infallibly be wetted. A Macintosh cloth with sponges may be arranged to intercept the water in most cases; and in others, a basin with a semilunar part of its brim cut out, so as fit the limb, or the side, or other part of the patient's body, ought to be used when much of this bathing has to done every day. A basin of this kind has been found very useful by the writer. It should be



made of metal, and is exactly like the well-known "barber's basin," or "Mambrino's helmet." Anyone who tries to bathe a part with the ordinary basin and with such a basin as that described, will appreciate the difference. In the one case the bed is probably deluged, and in the other, even though used by inexperienced hands, not a drop of water is spilt.

MANAGEMENT OF DIFFERENT DISEASES.—It would be impossible, within the limits of an article like this, and even if it were possible, it would not be desirable, to enter into the management of the sick-room, in all the different diseases which flesh is heir to. It must be well known to all who have any experience of illness, that no two cases, even of the same disease, are ever quite alike, and that the management and treatment must also vary according to the symptoms presented by and the peculiarities of each particular case. Take, for instance, two cases of inflammation of the lungs, always an anxious, and sometimes a highly dangerous affection—one will proceed from beginning to end without any unfavourable symptoms, and so long as he remains confined to bed, with scarcely any feeling of discomfort to the patient. In fact, so long as he remains quiet in bed, it is difficult to persuade him that he is ill at all, and, much more so, that he is the subject of a disease which oftentimes proves fatal. But another case of the same disease, under apparently the same external conditions, and in a person of, perhaps, the same constitution, will be accompanied from first to last by symptoms of the most distressing kind, both to the patient and to those by whom he is surrounded. Pain the most urgent, difficulty of breathing, and delirium, may be present during the greater part of the progress of the disease. The greatest uneasiness, suffering, and distress, may be felt by the patient, and he may either, after great care and long anxiety on the part of his physician and attendants, make a slow recovery, or death may put an end to the struggle. It will be obvious how, in such a case and, indeed, in all cases, the treatment and attention required will be as different as possible in the one case and in the other. Disease assumes very different aspects also when it attacks persons of diverse constitutions and in varying climates. Children are affected differently from adults, and many other difficulties might be mentioned, which prevent one from generalising upon the treatment of different diseases to a non-professional reader. Throughout the body of this article, we have endeavoured to place before the reader some of the main points to be attended to in the management of the sick-room during the course of diseases of a general kind, and in the treatment of injuries and wounds. Attention has also been directed to what will be required in the conduct of cases requiring surgical operations, yet it has not been attempted to follow out the steps of management necessary during the course of any particular disease or even class of diseases. It may not be out of place, however, to take one or two instances or examples, which may serve as typical illustrations of their class, and to indicate, however imperfectly, the course of treatment required.

If one were to attempt anything like a classification of diseases, so far as their nursing was concerned, it would be found that it will agree pretty closely with the practical allotment of diseases which obtains in our general hospitals. Besides the great sub-divisions of acute and chronic diseases, we would classify by themselves, medical and surgical cases; fevers, and contagious diseases; cases of mental disease; special diseases of women; and diseases of children. Every medical man knows, that in each and all of these departments are to be found nurses, whose experience and skill is of great value, but yet who, for the management of any other disease, not falling under the class to which they have been specially trained and accustomed, are little better adapted than those who are comparatively inexperienced. The proof of this is, that when an experienced nurse in a surgical ward is changed to a medical one, and instead of managing patients with wounds and broken limbs, undertakes the charge of those with acute and chronic diseases of the brain, lungs, &c., &c., much of her experience in her former capacity is comparatively valueless to her, and although she may have been a perfect adept in dressing a wound, or in changing the bed-clothes for a patient suffering from compound fracture of the leg, it may take some time before she acquires proficiency in, perhaps, the more nice observation required in studying and attending to the wants of a patient, with nervous, or heart affection, or understands all the precautions required in the case of those who may, in outward appearance, appear in tolerably good health, but who are no less the victims of mortal disease. Again, all hospital physicians know how invaluable the really good "fever nurse" is, and how often a desperate case of fever may owe its recovery mainly to the judicious, skilful, and constant care of a nurse accustomed to the conduct of cases of this kind. It is also notorious to every one, that some women can manage and control children, either in health or in disease, who are quite unmanageable when left in charge of others, and that the symptoms exhibited by a sick child, speak an intelligible language to one woman, which is a dead-letter to another. To any one who doubts this, we beg to recommend the perusal of a small volume, entitled, "How to Nurse Sick Children," by Dr Charles West, of London, Physician to the Hospital for Sick Children. The diseases peculiar to women, also, are occasionally of such a nature, that a nurse who has experience and skill in their management is greatly to be preferred to one who has not this recommendation.

MANAGEMENT OF MEDICAL CASES.—Let us take as an example of an acute medical case of a general kind—acute rheumatism, or what is popularly called rheumatic fever. This disease, when it occurs in an aggravated form, leaves the patient wholly dependent upon his nurse, and consequently it may be taken as an example of many in which the best nursing is required. It is oftentimes accompanied with great pain and suffering. Moreover, it is one of the commonest diseases of this country, probably owing to our cold, damp climate, and our habits of life. It depends upon the presence in the blood of a poisonous material, probably lactic acid, and this poison expends its force, not upon any one part or organ, but affects all the different textures around, entering into the composition of the joints, as well as the fibrous tissue of the ligaments and tendons of the muscles. Consistently with this tendency to attack organs of the above description, it has a remarkable and most dangerous tendency to implicate the membranes surrounding and lining the heart, which may be looked upon as the most serious complication of the disease. Thus, whether we consider the intense agony which a patient experiences from the slightest movement of the affected joints, the intensity of the fever which invariably accompanies a severe case, or the above-mentioned tendency to implicate the heart in a manner which may cause either sudden death or irreparable damage to that organ for life, it will be seen that here, perhaps, as much as in any other case, good nursing and management must be of the highest consequence. Immediately upon the thorough establishment of the disease, the patient is reduced to the last extremity of helplessness. He lies upon his back motionless and dreading the slightest movement, and is, in every respect, a melancholy spectacle of suffering and misery. He cannot and he dare not move, because the slightest motion gives rise to the most agonising pain in the affected joints—the weight of the bed-clothes is insupportable, and even the tread of an attendant crossing the room thrills him all over with pain. If any one standing near the bed happens to shake it, or to lay down any thing upon it, or forgetting the state of the patient for a moment, to sit upon the edge of it, or to rest his knee upon it, a cry of agony from the patient will quickly remind him of his thoughtlessness. The skin is literally bathed in sweat, which is acid, and of a peculiar odour, and adds much to the suffering and discomfort of the patient. Many of the ordinary symptoms of general fever are present, a quick pulse, foul tongue, constipation, high coloured and scanty urine, frequently with large sediment, somewhat like pea soup. One of the most remarkable and dangerous features of the disease is its tendency to change about from place to place, so that a patient who, in the morning, complained bitterly of pain in the ankles and knees, may, in the evening, be quite free from pain in these parts, and refer all his sufferings to his wrists and elbows. At another time one wrist will be very much swollen and full of pain, and perhaps next morning the pain will have entirely left it and taken up its residence in the wrist upon the other side. In the course of twelve hours or so, back again the pain flies to its original seat. But of all the changes which are apt to take place in this disease, which is so liable to shift about, the one by far the most to be dreaded is the change to the heart or its membranes. So common is this, that it is computed to occur, perhaps, once in every three cases of rheumatic fever. It is a result very much to be dreaded, inasmuch as the consequences may be very serious, either at the time of attack or in after life. Incurable disease of the heart may remain with the patient for the rest of his lifetime, and render existence completely miserable. On the other hand, the attack may be so violent as speedily to put an end to life. Patients have been known to die in a moment from the effects of the rheumatic poison suddenly changing to the heart. At every visit the physician anxiously examines the region of the heart to discover whether there be any signs of an impending attack, and he leaves directions with the attendants, of such a nature, that he may be sent for on the first approach of symptoms that would indicate that the heart was about to be affected. Besides the tendency to the complication of heart disease with acute rheumatism, inflammatory affections of other organs, are very likely to occur, owing, no doubt, to the presence in the system of the poison, which acts as an irritant and gives rise to inflammation. The membranes of the lungs may become affected, giving rise to rheumatic pleurisy, or the substance of the lung itself may be inflamed (rheumatic inflammation of the lungs), or there may be inflammation of the bronchial tubes (rheumatic bronchitis), which is one of the most distressing and painful accompaniments of the disease, since the harassing cough, by shaking the patient, causes him the acutest suffering and greatly aggravates his troubles. Another and rarer complication of rheumatic fever, but still one very much to be dreaded is inflammation of the membranes surrounding the brain, or even of the substance of that organ itself. It does occasionally happen also, but quite exceptionally, that the inflammatory process runs so high as completely to destroy one or more of the affected joints. This, however, is quite contrary to the common progress of the disease, for in most cases it is marvellous to note, how, on the subsidence of the affection, the joints which a few days before were red and swollen and intensely painful, recover their natural size, colour, and motion.

When the disease is not attended by any of the complications enumerated above, when it occurs in a healthy subject, and is subjected to skilful treatment, under conditions favourable for recovery, it may be said to run its course in a time varying from little more than a week to three weeks. The violence of the disease has almost always abated before the last mentioned time.

Patients, as a rule, do not die of acute rheumatism itself, for the disease is one that runs a certain course, arrives at its maximum, and gradually terminates in recovery. No doubt cases do occur in which the patient sinks rapidly, overpowered, as it were, by the violence of the disease, and from the presence of the poison in large quantities in the system. These cases, however, are to be looked upon as entirely exceptional, and when death does occur, it is almost always due to one or other of the complications mentioned above, by far the most commonly fatal of which is heart disease. Even should the patient recover at the time from the heart affection, he is sometimes, though by no means always, left the subject of chronic heart disease of an incurable kind. The consequences of this are sometimes, and in certain constitutions, comparatively trivial, while, in the majority of cases, they leave the patient an invalid for life. On the slightest exposure to cold, he is liable to be attacked by some inflammatory affection of the chest, accompanied with difficulty of breathing, or with dropsy, and on the slightest excitement he may be affected by palpitation, or with some sudden seizure, which puts an end to life itself.

The disease is undoubtedly hereditary; in fact, every day we are becoming more familiarly acquainted with a variety of evidences of the hereditary nature of rheumatism, different members of the same family being affected by different diseases, which can all now be traced to the one rheumatic origin. Rheumatic fever itself occurs most commonly in grown up people between the ages of fifteen and thirty-five.

Of all the numerous methods of treatment of this disease which have been brought into notice, and which have been fully tried in great numbers of cases, both in private practice and in all the leading hospitals of the country, not one has so well stood the test of experience, or has been followed by such beneficial results as that which is known under the name of the alkaline and opiate treatment. The rationale of this plan of treatment is as follows,—opiates are given freely to relieve the pain, and alkalies to counteract and eliminate the poisonous matter which is supposed to be of the nature of an acid, probably lactic acid. The other plans of treatment are so numerous, and have so disappointed those who have made a large trial of them, that it will not be worth our while to consider them at all, so that we will merely content ourselves with giving a sketch of the treatment of a typical case of acute rheumatism according to the plan above mentioned, and while doing so our object will be to dwell especially upon those points in the treatment, a proper understanding of which, on the part of the attendants of the sick-room, cannot fail to be of the greatest advantage to the subject of the disease.

The first thing that will probably be required, seeing that the patient at the commencement of the disease is generally suffering from all those symptoms depending upon disordered secretions, is the administration of a dose of purgative medicine. Now, if attention has been paid to the above description of the disease, it will be seen at a glance that this is a point which requires careful attention, and for which proper provision must be made. Nothing could be more cruel, and yet it is constantly done by unthinking persons, than to give a patient, suffering from acute rheumatism, a smart and active purge without making the slightest provision for its effects. It may be that the patient is in a private house, or in lodgings, where the wants of the sick-room are unknown. A bed-pan, or even a night chair, may not be at hand, and thus, even from the want of such apparent trivial precautions, the greatest suffering may be induced and the disease aggravated; and every one can fancy the torture which it must be to a patient whose joints are swollen and painful, upon the slightest movement, to jump out and in of bed several times, to respond to the calls of a brisk aperient which has been so thoughtlessly prescribed for him.

After the action of the purgative, which, as above indicated, should not be too strong, and should be carefully provided for, opiates should be given freely to relieve the pain. This is not their only action, because opiates encourage perspiration, and this is probably one of the natural methods for the elimination of the poison of the disease. The perspiration is sometimes very profuse, so that the patient's night-shirt and bed clothes even may be saturated with it, and it has always a sour odour, which can be readily recognised on entering the sick-room by those accustomed to see cases of the disease. A soft and warm handkerchief should always be at hand to wipe off the perspiration, but it will not be possible, owing to the great pain of the slightest movement, to change the night-shirt so often as would otherwise be desirable; this, however, is not of so much consequence, seeing that the joints and painful parts generally ought to be enveloped in cotton wool, and this can easily be renewed at pleasure. Sometimes the perspiration is *very* excessive, in which case all remedies given with the sole view of promoting perspiration should, of course, be stopped. The dose of opium to be given should be two grains of solid opium at bed time, or if the perspiration is not free enough, Dover's powder may be given instead. Every ten grains of Dover's powder contains one grain of opium, and the best way of administering this will be to give five grains of Dover's powder in a warm drink, such as a little gruel, every four hours.

The employment of the hot air or vapour bath, is to be recommended in cases where the perspiration is scanty (see article Bath, Appendix). The Alkaline treatment consists in the administration of large doses of some salt, such as the bicarbonate of potash, or the acetate or nitrate of potash, or a combination of these. From twenty to sixty grains of the bicarbonate of potash may be given every three or four hours in water, or in a state of effervescence. To a full-blooded and robust patient, and especially if the urine be loaded with the pea soup sediment, or a deposit of a pink colour, colchicum ought to be given in the dose of from ten to fifteen minims of the wine or tincture every three or four hours; this may be conveniently added to the mixture containing the potash. Now, in the administration of this plan of treatment there is one special caution to be observed. In spite of the opiates which are being given, it does sometimes happen that alkaline salts, and the colchicum together, show a tendency to pass off entirely by the bowels, causing a sort of dysenteric diarrhœa, accompanied by a most alarming depression of the system. A weak or delicate patient may be reduced to the lowest ebb if this state of things is allowed to continue, and it may be extremely difficult to rally him from the effects of the purging. Hence as soon as this tendency declares itself, the medicine should be stopped till the medical man is communicated with, the more especially since, as before noticed, purging may give rise to so much discomfort in this disease.

There are very few diseases accompanied by more suffering than acute rheumatism, the pain in the joints being often excessive, and many expedients have been devised to relieve this. Of all the numerous applications which have been recommended there is none so comforting, so easily managed, and so productive of advantage to the patient as cotton wool, loosely wrapped round every affected joint. Sometimes this may be covered with oiled silk or gutta percha tissue, so as to cause perspiration to exude in great quantity and constitute a local vapour bath, but at other times this cannot be borne at all, and after it has been kept on for any length of time the pain is thereby very much increased. If it is desired to apply this, a few turns of a bandage will secure the oiled silk or gutta percha over the cotton wool, and the heat produced will cause the gutta percha to mould itself into the required shape and to constitute almost an air-tight bag. A few drops of chloroform and of laudanum may be sprinkled on the surface of the cotton wool before it is applied. When the pain refuses to be allayed by these and similar means, and when it is very violent in any particular joint, the celebrated lotion of Dr Fuller, or what is equivalent to it, may be employed; it may be made by adding an ounce of bicarbonate of soda and an ounce of laudanum to a quart of hot water. A piece of folded lint or of flannel soaked in this may be frequently laid over the affected joint or joints, and in order to keep it hot and moist as long as possible it may be covered with oiled silk. When the violence of the disease seems for a time to have centred in the wrists or ankles, this lotion will be found of special advantage. Great relief may be sometimes given to a very painful joint by placing it upon a water pillow, or in the case of the foot or hand, by carefully adjusting them to a padded splint so as to prevent all unnecessary movements.

As mentioned above, the great fear and great danger in this disease is the implication of the heart, or, in popular phraseology, that it should fly to the heart; let the attendants, therefore, be on the look-out for and carefully note the first signs of the impending danger, so that assistance may be had before it is too late. The first symptom complained of may be pain over the region of the heart, with fluttering or palpitating action of that organ, sighing, or perhaps a tendency to delirium. These symptoms, however, are somewhat like those occasionally presented by hysterical patients suffering from rheumatism, who have themselves perhaps been led to look out for them by leading questions, and who are possibly under the influence of medicines, and it may be, suffering from pain and distention of the stomach, causing uneasiness over the region of the heart. The attendants, therefore, must not rashly conclude that every pain referred to this situation of necessity implies that the heart is about to be affected. Until medical assistance can be obtained, the most important point to attend to in the event of the heart becoming affected, is, on no account to allow the patient to rise up, or even to sit up suddenly in bed, since immediate death by fainting may be the result. Stimulants may be given if there is great tendency to faintness and depression; a current of cool air may be allowed to play around the patient, and smelling salts or eau-de-Cologne may be applied.

During the progress of the first part of the disease, the patient's *diet* will require to be very low indeed, and must be made up principally, if not entirely of fluids—such as beef tea, milk, arrow root, &c.; while, owing to the excessive perspiration, and the consequent great thirst, abundance of cooling drinks may be allowed, especially, potash water, or lithia, or soda water. Milk may be given with these, with lime water, or with the effervescing carrara water. Lemonade may also be given, or a drink made by adding a tea-spoonful of bicarbonate or nitrate of potash to a pint of water. Another excellent refreshing drink is made as follows—take of cream of tartar, one ounce, oil of lemons, fifteen drops, loaf-sugar, two ounces, boiling water, two pints.

There is perhaps scarcely any disease in which it is more necessary to use the feeding cup for the administration of food, drink, and medicines. Sometimes the muscles of the neck are affected to such an extent that the slightest movement of the head is exquisitely painful, and yet the patient is tortured by a consuming thirst. In such a case the great advantage of the feeding cup is, that an attendant can administer a mouthful of some cooling beverage as often as necessary, without the slightest movement on the part of the patient.

Any one who has seen much of rheumatic fever will be struck by the fact that the subject of it generally lies upon his back, sunk down in the bed, in an apparently helpless position; he cannot relieve himself by changing his position from side to side; hence the occurrence of bed sores is very much to be dreaded, more especially if the rheumatic is complicated with any other disease, which either aggravtes its severity or prolongs its duration. The back or part upon which the patient lies constantly must be carefully watched, and on the first symptoms of anything like a flush of redness, should be washed twice-a-day with brandy. The patient should be laid upon a water-bed or water-pillow, or, failing this, pads or supports of different kinds should be adjusted under him, that the pressure may be distributed and not fall all together on one spot, so as to give rise to a sore. In fact, all, and more than all the ordinary precautions must be taken which are enumerated under the article "Bed Sore," in the body of the Dictionary and Appendix.

APOPLEXY.—The most common form of apoplexy is that in which hemorrhage takes place in the substance of the brain. It occurs most frequently in advanced life. The amount of effused blood varies from the smallest appreciable quantity to many ounces. The cause of it is generally to be found in a diseased state of the blood vessels, and it takes place frequently as a consequence of heart disease, or of Bright's disease of the kidney.

It is one of those affections which occur so suddenly, and with so little warning, that no preparation can be made for it. A person falls down in the street, or in church, or at a public meeting, and is conveyed home in a state of insensibility. Skilful attention in the sick-room may greatly assist recovery from this affection, while improper treatment or neglect may have an opposite effect. Promptitude of action is essentially required, since unless effectual measures are taken at the commencement they may be of no avail.

The pressure upon the substance of the brain, caused by the effusion of blood, gives rise to sudden insensibility, with loss of sensation, thought, and voluntary motion. As a rule, a second or third attack is more severe than a first, which is often comparatively mild, while the second is sometimes followed by paralysis, and the third is so frequently fatal that, according to popular belief, a person seldom survives a third attack.

When a person is brought home in a state of insensibility, and supposed to be suffering from apoplexy, if a medical man has not been sent for, those standing around should be careful not to form too hasty an opinion as to the nature of the affection, for it has often happened that a fit of "apoplexy" has turned out to be only a fit of drunkenness. On the other hand, policemen, and meddlesome persons, have caused fatal mischief by treating a patient really suffering from apoplexy upon the supposition that he was only drunk. The practical rule to be observed, therefore, is carefully to examine such persons; to endeavour to ascertain the absence or presence of the odour of spirits in the breath; to observe their general appearance or age; and to make all possible inquiry as to the probability of the seizure being due to narcotic poison, to drunkenness, to apoplexy, or to any other cause. As regards the general appearance, it may be said that those are most subject to apoplectic attacks who have florid features and short thick necks; a large head, a flabbyness of the muscles indicating sedentary habits, a protuberant belly, and a general appearance of being accustomed to good living, all indicate a tendency to apoplectic seizure. The patient is generally seized without much warning; sometimes, however, he will have been heard to complain of headache or giddiness, noises in the ears, swelling of the eyes, with some alteration of vision, transient loss of memory, melancholy, rambling and incoherent speech, or a tendency to drowsiness. Sometimes also, paralysis, either of the face or of a limb, precedes the loss of consciousness, and is a terrible warning of what may be about to take place.

The patient will probably be found in the position of one who has fallen down suddenly, lying in a deep sleep without consciousness or movement. The face is generally flushed, (though in some forms of apoplexy it is pale,) the breathing is snoring or puffing, or a combination of the two, and the pulse is full and labouring, but not frequent. Care should be taken to ascertain, inasmuch as it is a great help in determining the nature of the case, whether the patient is suffering from paralysis of any part, or from rigidity or contraction of its muscles; whether there is any distortion of the features, and whether or not convulsions occur at intervals. Sometimes there is no absolute loss of consciousness at first, and the patient, after having suffered from some suspicious head symptoms, apparently rallies for a little, but this state is often, after a few hours, succeeded by complete unconsciousness, which very often ends in death. Again, there may be no unconsciousness at all, and the patient may be found paralysed on one side of the body and unable to speak, although he may be quite aware of what is taking place around him. There exists the greatest variation as to the occurrence of the symptoms enumerated above in different cases. Sometimes the unconsciousness or the paralysis is complete, sometimes only partial, and so on.

With the preventive treatment of apoplexy we have nothing to do in an article on sick-room management. What we wish is to give directions by which the disease may be recognised, and all possible precaution taken to prevent further mischief being done, as well as also to indicate how best to carry out the appropriate treatment which may be prescribed.

In former times, when bleeding was so much in vogue, almost every patient who had or was supposed to have an apoplectic attack was immediately bled. If a doctor could not be found, any person who happened to be present did not hesitate to open a blood-vessel, if he could, with any instrument which came to his hand, and the writer once saw a servant endeavouring frantically to open the temporal artery of her master (who was seized with apoplexy) with a fork. It may at once be said that no case should be bled in the absence of a medical man, and that, indeed, the cases are very few where bleeding is required, while it may often do great injury. The greatest care should be taken in lifting and moving a patient, supposed to be suffering from apoplexy, since movements of the head and neck especially may increase hemorrhage, or may bring it on again after it has once stopped. Yet how often do we see well-meaning but ignorant and officious persons, raising up such a patient suddenly, and endeavouring to rouse him to consciousness! and in the case of poor patients found "in a fit" on the streets, what rough treatment or handling do they sometimes receive at the hands of the police, or others, to whose tender mercies they are entrusted. It often happens that some person who has once in his life seen a case of imposture successfully treated, insists upon trying his favourite remedy upon all the cases that subsequently come under his notice, forgetting that, unless he is certain (which no one but a medical man can be), that it is a case of imposture, he may inflict a fatal injury.

In all cases, a patient should be placed in a well-ventilated room, the head should be gently supported upon a pillow, and the shirt collar and neck-cloth, and all tight parts of the dress should be removed, so as to admit of free circulation of the blood. If the face be flushed and the veins turgid, cold should be applied to the head, either by means of muslin rags dipped in cold water and vinegar (if the water is iced so much the better), or pounded ice may be applied in a bladder; in almost all cases of apoplexy, active purgatives do good, and should be administered, especially if the face is flushed, and the veins turgid as before-mentioned. It becomes a question how they are to be administered. If the patient is quite unconscious, and has lost the power of swallowing, it will be necessary to mix up three or four drops of croton oil with some syrup, or sugar and water, and place it on the back of the tongue, by means of a feather, when it will be probably swallowed at once; or ten grains of calomel may be placed on the back of the tongue. If, however, the patient can swallow, a black dose may be given, or five grains of calomel, with a scruple of jalap powder; or half-a-drop of croton oil may be mixed with ten grains of the compound colocynth pill mass, and divided into two pills, both of which may be given at once. A stimulating and purgative enema, consisting of two table spoonfuls of turpentine, and a wine glassful of castor oil to a pint of gruel should be administered slowly. Mustard plasters should be applied to the calves of the legs, care being taken that they be not allowed to remain too long, if the patient is unconscious or paralysed. There is a popular prejudice in favour of emetics in cases of apoplectic seizure, but, as the very act of vomiting causes a determination of blood to the head, it will be very unwise to employ them without proper medical advice.

The head may be ordered to be shaved by the medical man; the reader is referred to the former part of this article for directions on that point.

Should the extremities be cold, owing to exposure or other causes, hot blankets or bags of hot bran or hot salt may be applied to them. It is to be particularly remembered that no hot bottles or hot tins, or anything hotter than a hot blanket, is ever to be applied to a limb that is paralyzed, else it may be followed by sloughing of the most painful and dangerous kind.

SMALL-POX.—Like the other eruptive fevers, small-pox is often attended by great irritation of the nervous system, and it may be by violent delirium. At the commencement, sickness and pain in the back are the symptoms most complained of. When the eruption comes out the itching is intolerable, and the desire to scratch the pustules is so great, that the patient must be watched, and in the case of children, the hands should be muffled. Of all the cooling applications to soothe the itching, the writer gives a decided preference to carron oil, which should be kept in a pot by the bedside, with a feather or large camel's hair brush stuck into it, so that the nurse may at once apply it to any part that is irritable.

The very disagreeable odour which emanates from a patient afflicted with small-pox after the eruption is fully developed, requires to be counteracted by all possible skill and ingenuity in the use of disinfectants (see article in the Appendix). In some bad cases of what is called confluent small-pox, the bad odour is so overwhelming as to cause immediate sickness to any one coming in from the open air, unless disinfectants be freely made use of, along with good ventilation. Scabs and crust which form from the bursting of the pustules, should be kept constantly moistened with carron oil, and, if practicable, poultices should be applied in order to further their removal. A poultice made with charcoal and linseed meal is probably the best, because the charcoal destroys the bad smell. Particular care will be required to prevent bed sores, and sloughing of the back, the hips, and even of the heels. In very bad or malignant cases, the skin has been seen to come off in great masses, and to adhere to the bed-clothes. Such cases will, of course, require all the care and skill which a good nurse can bring to bear upon them, to lessen the sufferings of the poor patient. The tongue, lips and teeth should be repeatedly cleansed from the crusts which are apt to form upon them, and the best way to do this is by the finger either alone or with the help of a muslin rag dipped in luke warm water, or in water to which a little borax and tincture of myrrh have been added. The nostrils are apt to be plugged by crusts which, impeding the breathing, cause great discomfort. These should be repeatedly softened with oil, and if possible, removed; owing to the presence of pustules upon the inner membrane of the throat, the patient may complain of pain in swallowing, and of general sore throat. This is best relieved by frequently steaming the throat. The eyelids swell so that on or after the fifth day of the disease the patient is often quite unable to see, and his whole countenance is so altered that he could with difficulty be recognized. The eyelids should be repeatedly bathed with luke warm milk and water to prevent their being joined together, and if matter forms inside them, luke warm water to which a little alum has been added, should be frequently injected inside the eyelids by means of a syringe. This is to be particularly attended to in the case of children, else loss of one or both eyes may be the result.

Delirium, which frequently occurs, is to be treated in the manner directed under the head "How to manage Delirious Patients."

The action of purgative medicines must be carefully watched, owing to an occasional tendency to exhaustive diarrhœa.

There is no disease in which the patient requires more attention as to cleanliness. In bad cases unless the hair is cut very short and repeatedly cleansed, filth and vermin will accumulate to a surprising extent. The long back hair of females has generally in such cases to be entirely removed, but, if practicable, part of the front hair may be left. Red precipitate powder may be sprinkled upon the hair after it has been cleansed, to kill the vermin.

No special application has any influence whatever in preventing pitting, but this only occurs in very bad cases.

Suppuration in the ears often occurs after small-pox. When this happens, poppy head fomentation, or a poultice composed of bruised chamomile flowers, should at once be applied to the ears.

No special medicine has any effect whatever upon the progress of small-pox. It is a disease which runs a given course, and presents a variety of symptoms, according to its severity, which it must be the duty of the medical man and attendants to relieve as far as lies in their power. Cooling drinks, such as lemonade, soda-water, or plain cold water, or any of the numerous fever drinks, may be allowed *ad libitum.* The diet, at first, should consist almost entirely of beef tea and milk, arrow root, gruel, fruits, &c. Afterwards, if the eruption does not come to a head soon enough, strong broths and wine may be allowed, and still later, when the discharge from the pustules is great enough to weaken the patient, the most nourishing and liberal diet, with a plentiful supply of stimulants will be requisite. If there be great irritability and restlessness, so as to prevent sleep at night, an opiate draught will probably be ordered by the medical man, after the administration of which the patient should be kept very quiet, and undisturbed by any noises which might prevent him from falling asleep.

When great heat of skin is complained of throughout the disease, tepid sponging will often give great relief. The patient is only to be kept comfortably warm, and not smothered with bed clothes, with the view of bringing out the eruption, according to the prejudices of some old-fashioned and ignorant nurses.

FEVERS.—There can be no doubt that a skilful "fever nurse" is able to deal with a case of fever much more easily and successfully than one who has had no experience in the treatment of that class of diseases. She has been trained and accustomed to observe the aspect and general condition of patients in the different stages of fever. She is able to understand and to cope with their delirium. At night when the fever patient's wanderings are most pronounced, or it may be delirium most violent, she is not easily frightened, and knows from experience of similar cases how to quiet and how to manage the patient. She also understands how to administer food and stimulants; she has been taught the importance of their being given regularly; and her assistance is of great value in keeping the patient clean and providing against the occurrence of bed sores. In many other details her knowledge of the course that is run by diseases of this kind, leads her to administer to the comfort and supply the wants of fever patients at particular times, in a way that can be done by no other person, and in fact so valuable is good nursing in fever, that it may safely be said it is of more value than medicine.

The general remarks which we shall make as to nursing in fever, may be made to apply with more or less modification to all the continued and eruptive fevers and to cases of fever generally, whether occurring in this country or abroad. Fever usually commences with an indefinable preliminary stage, langour and lassitude, debility, want of appetite, shivering or chilly sensations, followed by heat of the surface of the body, quickness of pulse, great weakness, head-ache, pains in the limbs, and general disturbance of most of the functions of the body. All these may accompany the fever which is merely symptomatic of some other affection, but they are also met with in the commencement of those fevers to which have been given destinctive names. During this first or preliminary stage, the patient, although evidently drooping, is not yet confined to the sick-room, but plods on as best he may with great weariness, and with the sensation that something is about to happen to him; at times very low-spirited, and at other times indulging the hope that his symptoms may pass away. Nothing can be done for him except to administer as much as possible to his personal comfort. He should be kept quiet and free from all mental excitement, and he should also be prevented from exposing himself to cold, or to anything which, when the disease does become developed, might tend to aggravate its severity or prolong its duration. When there is much shivering, or chilliness, the patient should be put to bed, and hot bottles applied. Headache should be relieved by applying cold to the head, the bowels should be gently acted upon, perspiration encouraged, the simplest food given, and the strictest quiet observed. The symptoms above enumerated, are generally most severe at night, and a slight remission occurs at the approach of morning. When the feverish state has become fully developed, the symptoms are much increased in severity, and several new ones are added. For example, the headache may become very severe, wandering, or even violent delirium, may supervene. The weakness of the muscular system may be so marked that the strongest patient is unable to turn himself in bed, while emaciation takes place with a rapidity and to an extent that is quite remarkable. At this time also, the lungs may become affected from the fever poison circulating in the system, and the case may become seriously complicated by the occurrence of inflammation of these organs, or of bronchitis. The prostration is so great that the patient is frequently unable to pass his urine, the discharge from the bowels takes place involuntarily, there is a great tendency to bed sores on any part of the body subjected to pressure, and in fatal cases the pulse increases in weakness and rapidity; there is constant twitching of the muscles; or the patient seems engaged in picking things from the bed-clothes; the countenaace becomes livid; the breathing very rapid; and the patient passes into a state of stupor which ends in death. (The reader is referred to the article Gastric or Enteric Fever, in the Appendix, for information as to the treatment of typhus and typhoid fevers, and reference is also to be made to the different articles, Fever, Typhus, Small-pox, Scarlatina, Measles.)

The great heat of skin, complained of at the commencement of fevers, should be relieved by tepid sponging. In all cases, but especially where the throat is complained of, a free supply of cooling drink may be allowed. Plain water, iced, or ice itself, may be given; or toast water, or barley water, or any of the so-called fever drinks. The diet should consist almost entirely of milk, beef tea, and farinaceous food. Afterwards, in cases where there is great loss of strength, and where the vital powers evidently begin to fail, the strongest beef tea, mutton, or chicken broth, must be given regularly, and stimulants, wine or brandy, are to be administered as directed by the medical man, with the utmost precision and regularity. It is even insisted upon by some of the best writers on the subject, that when stimulants and nourishment are urgently required the patient must not be allowed to sleep on without being awaked for his nourishment at the appointed hour, because, it is said, that if this is not done, it will be found that when the patient awakes he is in such a state of prostration that it is almost impossible to rally him again. The writer, however, does not, as a general rule, subscribe to this practice, and thinks that it is very doubtful whether or not a patient should be awaked from sleep in order to administer food or stimulants; in fact, he rather regards it as an instance of the ridiculous extreme to which the followers of the highly stimulating school of physicians have gone. Besides, it is notorious among nurses of experience that after a patient has been aroused out of a refreshing sleep, it is sometimes impossible to set him off to sleep again. The time spent in sleep may be looked upon as a reparation especially for the nervous tissues of the body, and it will generally be found that however exhausted a patient may have been beforehand, he will lose nothing by being allowed to sleep as long as possible.

When patients suffering from fever are seized with pain in the chest, or cough, mustard poultices, or turpentine stupes may be at once applied. These symptoms compound fracture of the thigh, an injury which entirely disables a man, and which, during the treatment necessary for recovery, leaves him wholly dependent upon those around him, without whose assistance he would be quite unable to perform the ordinary functions of life, as well as unfit to provide for his ultimate cure. A *compound* fracture is one in which the bone is not only broken, but has protruded through the skin, so as to leave a wound of the surface. Part of the bone may be found sticking out of the wound immediately after the accident, and may have to be removed by the surgeon, or it may have receded. It may be broken in one place, or it may be shattered into many fragments. There may be hemorrhage more or less from the wound, owing to the fractured or splintered ends of the bones having wounded the blood vessels. If no large blood vessel, however, is wounded, and the bleeding only amounts to oozing, this is not a complication of any importance, and all that is necessary will be to apply cold by means of sponges soaked in cold water, or wet linen rags. When the hemorrhage is very profuse, and evidently coming from a large vessel, pressure must be applied upon the main blood vessel of the limb, either by means of a tourniquet, or by the best means that can be provided for the purpose. It is here necessary to give one precaution as to the application of this tourniquet, or of the temporary substitute for it, and that is, it should not be applied unless it is absolutely required, as in the case mentioned above. The objection to its use is, that it presses tightly upon the veins of the limb and prevents the return of the blood, causing what is called venous bleeding, that is, bleeding from the cut end of the veins. Bleeding of this kind from veins may be generally distinguished by the dark colour of the blood, and it may almost always be stopped by the removal of pressure *above* the bleeding part, or the application of cold. Every care must be taken in moving the limb to prevent the ragged ends of the bone from doing injury, and for information on this point the reader is referred to the chapter "How to aid in case of Accidents," where the necessary directions will be found as to how to move the patient and the injured limb, as well as how to undress him and get him to bed. It will be obvious that since a fractured limb requires to be placed and to be maintained very accurately in position, a bed with a firm and unyielding bottom will be necessary, it may therefore be requisite to put boards or some unyielding material under the mattress to prevent it sinking down at any part. This should be done before the patient is put to bed at all, since it saves a great deal of after trouble, and it is important in the case of a fractured thigh, in which it may very likely be requisite by means of a splint to extend the patient's limb in a perfectly straight line. It is no part of the intention of this article to describe the surgical treatment of fractures of the thigh, but merely to explain, if possible, the rationale of it, and to indicate in a general way how patients require to be managed who are suffering from fracture of a limb. It is usual to put up a fractured thigh either in a straight line, with a long splint extending from the arm-pit beyond the foot, or to lay the limb upon a splint such as the one called MacKintire's splint, which is a double-inclined plane. In either case perfect immovability of the limb is desired, and may be obtained by adjusting the bandages and securing the limb and the splint to the bed. But in the case of a compound fracture, open spaces or "windows" must be left, through which the wounds may be dressed from day to day. As a matter of course, the patient must remain constantly on his back, and the mere mention of this fact will suggest how much care and trouble will be required at the hands of the nurse. When the night shirt or bed clothes are changed, the body must be raised, as it were, in one piece, if raised at all. The patient will require to use the bed pan, and especially in the case of the aged, the feeble and delicate, or of those suffering from a complication of injuries, the greatest vigilance will be requisite to prevent the occurrence of bed-sores, and to relieve the pains and aches consequent on lying in one position. In addition to this, the nurse must be careful to report to the doctor any complaint of the patient as to pressure of the bandages upon any particular part, and in the case of delirious and insensible patients, must note for herself whether any of the bandages or appliances are chafing the skin, since dangerous sloughing, followed by the most troublesome sores, have occurred from this source. After recovery from all fractures, but especially from fractures of the thigh, the use of the limb must be resumed very gradually, indeed crutches being used at first to bear the weight of the body. It seems almost superfluous, and yet the patient must be cautioned against breaking the limb for a second time; since numerous cases have occurred in which the patient, either owing to a slippery floor, to his being unaccustomed to the use of crutches, or to his not being sufficiently supported by his attendants, has fallen upon making his first essay to walk, has broken the limb a second time, and has had the whole course of treatment to go through again. It should be considered that for some time the broken leg is absolutely useless, and that even the sound one is comparatively so owing to long confinement to bed. Patients find the constrained position very irksome, and it will be well that the attendant should pay particular attention to the direction of the medical man as to the limb, and should carry them out with firmness, otherwise a bent, shortened, or otherwise deformed limb may be the result of a nurse's culpable good nature in yielding to the desire of a patient to loosen his bandage or to change his position for a time.

The following remarks, by Sir William Fergusson, upon the simplicity of dressing wounds and sores are so valuable, that those who have the management of such cases would do well to read them carefully:—

"The simplicity of dressing a wound, of dealing with an open surface or sore—which I alluded to in my last course as being characteristic of modern surgery—may be viewed in various lights and aspects. The simplicity of the application, and the simplicity of manipulation both deserve notice, particularly as each, in perfect surgery, is regulated by a due appreciation of nature's powers, and of the influence of time. Never, I believe, in the history of surgery, was there less faith in applications to wounds and sores than at present. Our trust now is chiefly in nature; and unless there be a regulating power from within, we know that we can do but little either to restrain or excite. The efficacy of our simplest applications may often be questionable; and those which stimulate, I feel, often do more harm than good. Nothing, I fancy, can be simpler than lint and water. What can be less irritating than lard or simple cerate? Even these are set aside by some of our ablest practitioners, such as Dr. Humphrey, of Cambridge; and literally nothing is applied to some of the largest wounds we have to deal with. To be sure, in accordance with custom in this country, the surfaces are held together by stitches until nature effects a permanent union; but in such an instance these are only mechanical aids, they are like the splints with which we keep steady the fragments of a broken bone. The contrast between heaps of dressings on the strips of a thigh and nothing at all is certainly remarkable. All that some aim at is merely to keep surfaces in contact, and molestation even from the weight of bed clothes. In as far as actual union is concerned, this is perhaps the best and most philosophical view to take, yet evil may actually arise from such excess of simplicity. It is hardly possible to guard against external influences, either from around, or from the incautious or irregular movements of the patient. Hence, in many instances, such a style of dressing, with straps or bandages, or both combined, as shall give most security against such evil influences, must be allowed to be the wisest course; yet, again I say, that these are only mechanical appliances: but when they are acurately adapted, their utility is beyond doubt. If an ointment is used in such a case. it cannot possibly be of any service except to facilitate the removal of outside coverings, I here refer to ointment as being one of the simplest applications; and whatever virtue may be claimed for any special compound of the kind, its influence cannot extend far. Water must have a more extended sphere of action, for, if prevented from evaporating, and regularly applied, all around must be kept more or less moist. The temperature of a considerable substance of tissues may be materially modified by water. Wet cloths, if applied only at a first or single dressing, I count as nothing in what I am now referring to; but if cold water be frequently renewed without special covering, or if evaporation be prevented by oiled silk, the temperature may be kept considerably below the natural standard, or possibly somewhat above; although on these points I do not think that we have much precise knowledge. Notwithstanding some assertions to the contrary, I believe that most of us have the impression that whilst adhesion at a wound is being effected, there is present what Hunter called 'the adhesive inflammation;' but I am not aware that it has ever been demonstrated that a slight fall or rise in temperature has much, if any, influence on that process.

"I refer to this subject at present chiefly to question the supposed beneficial influence of even so mild an application as water, or of simple ointment, in regard to the process of adhesion. If only this process be aimed at, I believe them to be utterly useless. They have no healing influence whatever!

"But in the majority of wounds, even when we talk of adhesion having taken place, some points here and there do not unite, and these must then do so by the more tardy process of suppuration and granulation. If ligatures have been used to arrest hœmorrhage, and the ends are left out, suppuration and granulation must of necessity occur. And here, I believe, complicated and compounded dressings are equally useless. Ointments, even the most simple, are, in my opinion, of value only as permitting the more ready removal of soiled dressings; but water, in such cases, I consider of singular worth. If moderately cold it may keep down temperature, possibly prevent accumulation of blood in the inflamed parts; and in both ways, or by some other influence on the nervous system, give at least comfort to the patient's feelings. I believe the theory a sound one, that moisture and warmth tends to promote suppuration; and when this process is fairly established, the patient generally has considerable relief, both from head distress and general fever. The old-fashioned poultice has been largely displaced to make way for the more elegant dressing of wet lint, covered with oiled silk, or for 'spongio-piline,' which serves similar purposes. In my daily experience I am often asked if water used thus should be hot or cold. I answer that it is of little or no consequence, as in either case the water will speedily acquire the temperature of the surface on which it is placed.

"But it is with palpable open surfaces that there is the greatest variety of dressings, and perhaps variety of opinion as to the specific agency of compounded dressings. For a simple excoriation or abrasion not larger than a pin's head, to those enormous damaged surfaces from scalds and burns, which may cover half the body or more, there have been compositions recommended which I have neither time nor inclination to enumerate. All have been vaunted: all men of experience have seen most of them tried. Patients have died during, though not from their application; and surfaces have been healed under all such varied agencies. Fluids have been used from the blandest, say thin water gruel—to solutions of various irritating, even caustic salts, or to spirit of wine or turpentine. Powders, from simple flour to that of carbonate of lime, oxide of zinc or of resin, have tried their advocacy. Oils, from sweet up to turpentine, have been extolled, and an envelopement of cotton wool has been in certain instances considered all powerful.

"Here it appears as if our resources for good were unlimited. With so many applications for open surfaces, each having been extolled in its time as beyond all others in utility, does it not appear as if we possessed the most precise power wherewith to heal as it were at command? Yet how often do we see the highest skill seemingly baffled! And does it not appear evident that the man of experience is generally indifferent as to which application is used for a time? The reason of this, I believe, is, that when out of the scholastic bounds, and reasoning for himself, he is not impressed with confidence in those specific virtues for which certain applications have been extolled. For my own part, I have long come to the conclusion that many of those agents are positively injurious, and that when healing actually takes place under their use it is in despite. There is a power within the body itself which works for good irrespective of such injurious appliances. No doubt, in some instances, a gentle stimulant in the shape of lotion or ointment does good: but in the majority, if nature be left to herself, she will effect cicatrization in proper time—a time over the duration of which we have but little control. From what I now say, it might appear that we have actually no power or influence in the management of such cases. But I am far from implying this; on the contrary, the utmost skill may be displayed, the highest success achieved.

"An astringent lotion, say a solution in water of sulphate of zinc, two or three grains to the ounce, is by most of us deemed well nigh specific, and so it in a manner seems to be when a sore is rapidly approaching the last step of healing. The same may be said of various solutions and ointments. Yet dare one of us affirm that had water only or lint only, been applied, or had nothing been used, the sore would have been an hour later in healing? Yet so strong is faith in these applications, that the practitioner just merged from the school is apt to take what he thinks will be the most rapid course, and so astringents are resorted to at once, and thus a raw surface is so teased and irritated that nature takes twice the time to do her work of repair. A sore which, if let alone, or covered by some simple only, would have healed in a few days or weeks, may be so fretted as to endure for months. It must have frequently fallen to the lot of seniors to be consulted by patients and practitioners about sores which seem to have baffled all skill and every sort of application, and when the advice has been given to apply simple water—a bit of wetted lint, to do as it were, nothing at all—the sore has rapidly healed. I know of no stronger test of confidence in my own humble skill, which I ever incur with those who consult me, than when, visit after visit, with reference to slow-healing sores, I say 'Go on with wet lint, if you please;' yet I fancy it is the right course both for the patient and for surgery. Occasionally some, under the impression that nothing is being done, will cling to the mysterious-looking black or yellow lotion, to the so-called specific alterative; even a month of slow poisoning with mercury may be preferred to the *laissez faire* system; but the generality of patients are satisfied with a reasonable explanation."

MANAGEMENT OF DISEASES PECULIAR TO WOMEN.—With regard to these, it may simply be said, that in special cases, where there is great pain and suffering, in many incurable cases, and in cases requiring operation, a very great advantage will be gained to both the doctor and patient by securing an attendant who has had experience in this department, and who, where occasion requires, will consequently often be able to alleviate suffering, and to save trouble. In incurable cases, much is to be done in the way of palliation; and although a skilful general nurse, by careful attention to the directions of the medical man, may and can do all that is necessary, yet experience in a nurse in this department is very much valued by those who suffer from such diseases, and it will, therefore, be the duty of those concerned to procure such a nurse for them when it is practicable. This is perhaps still more necessary in cases where operative interference has been required, and every medical man of experience knows the luxury of having the assistance of a skilled nurse in this department, both during, and in the after treatment of an operation. Nervous and hysterical patients also can sometimes be thoroughly controlled, and kept quiet by such a nurse; while a weak and foolish person, or one who has had no experience in such symptoms, by injudicious management frequently prolongs and aggravates a case.

GENERAL MANAGEMENT IN DISEASES OF THE EYES.—Whether we consider the extreme delicacy of the organs in question, or their near relation to and intimate connection with the brain itself, it will be easily understood how much caution and care are requisite in the treatment of them in disease. Any one also who is conversant with eye disease knows well how much, in the case of one eye being affected, the other sympathises with it; so much, indeed, is that the case, that removal of the diseased eye is often resorted to, mainly from the desire to save the other and sound one. The fibres of the optic nerves within the cranium interlace, at what is called the optic commissure, in such a manner as readily to account for their sympathy, seeing that morbid impressions or stimuli can be so easily conveyed along the nervous filaments from the morbid to the sound eye, in the same fashion as the electric current is transmitted along a series of iron wires.

Within the last few years great advances have been made in the treatment of diseases of the eye, owing to the introduction, into medical practice, of an instrument called the ophthalmoscope, by means of which the morbid conditions of the internal structures of the eye can be discerned, and the results of treatment observed.

Another point in which we have unquestionably progressed is in the simplicity of our general treatment of eye disease, and in the almost total abandonment of the administration of mercury, and the reckless and indiscriminate blood-letting that used formerly to be so much in vogue. In the forms of inflammation of the eyes met with in scrofulous children, and in those of a weak constitution, all lowering and depleting measures are now generally discarded in favour of a highly tonic and stimulating plan of treatment. Even the youngest infants, when afflicted by purulent inflammation of the eye, are often cured by the physician ordering them better support, either in the form of cow's milk, or by substituting the milk of a strong and healthy wet-nurse for that of the mother, which may be poor in quality; and by prescribing (of course in addition to proper local treatment) a tea-spoonful of port wine two or three times a day. In the case of delicate and neglected children, the greatest benefit often ensues from directing the attention of the parents, or of those interested in them, to the importance of warm clothing, regular exercise in the fresh air (or change of air in some instances), good nourishing diet, with a plentiful supply of milk and eggs, cod liver oil, and tonics, especially quinine. Such cases are often tedious, but seldom fail to yield, in a marked manner, to constitutional treatment of this kind when efficiently and persistently followed out.

Some discussion has taken place as to what is the colour most agreeable to or most adapted for weak eyes, or those which are unable to bear the light. Slate colour and green are the favourites, and at the present time a preference seems to be given to the former in the construction of wards or hospitals for the reception and treatment of ophthalmic disease. Shades also are made now of this colour. They may be easily manufactured from card-board or calico, both of which materials may be obtained of a slate colour, at almost any place.

It is a point to be recollected in the treatment and management of diseases of the eye, especially of those accompanied with a discharge of matter, that this matter is sometimes capable of communicating the disease to the sound eye of a healthy person, hence the utmost caution is to be observed in the use of towels, sponges, &c., in the sick-room. Instead of using a sponge at all, it is perhaps better to employ cotton wool or fine tow, or a syringe, for the purpose of bathing the eye, and of ridding it of the accumulation of mattery discharge which takes place. The advantage of using wool or tow is, that each piece can be thrown away or burnt after use, whereas a sponge is valuable, and is kept carefully by the nurse, and may be used in other cases. A syringe is peculiarly valuable, and indeed quite indispensable for those cases, occurring so frequently in children, where purulent matter collects under, and is retained within the eyelids.

It is sure to do mischief, and to destroy the textures of the eye, unless it be carefully and regularly removed by syringing the eye, either with warm water or milk and water, or with a weak solution of alum and water, or some other astringent solution, which may be prescribed by the medical man. It is well worth knowing that an eye or eyes may often be saved from untimely destruction, owing to the care, skill, and regularity shown by the nurse in attending to this apparently simple procedure. After each time of syringing, a piece of cotton wool should be placed over the closed eyelids, and retained in its place by being bound round the head, either with a very light silk handkerchief, or a turn of a bandage.

When the eyelids, as often happens, not only in eye disease but in fevers, and other acute diseases, are glued together at their margins, so that the patient is unable to open or separate them, they should be frequently bathed with tepid water, or milk and water, till they can be easily separated, and then the edges should be smeared gently with a little simple ointment to prevent them from adhering again. When a case of this kind has been neglected for some time, and when a sort of milky crust has formed owing to the inflammatory secretion having been poured out, and become thickened and hardened upon the eyelids and cheeks, frequent poulticing and fomentations should be resorted to till the scabs or crusts are quite softened, and can be removed without hurting the patient.

HOW TO PUT DROPS INTO THE EYE.—In the course of the treatment of many eye diseases, it is necessary to drop certain solutions into the eye with the view of producing different effects. The object may be merely to allay pain, or to contract, or dilate the pupil of the eye, or, on the other hand, to check discharge from the surface of the lining membrane, or to promote the healing of ulcers. In any case the method of procedure is the same, and is perfectly simple. A quill with the end cut off is to be dipped in the solution till it contains a few drops. The operator then gently separates the eyelids with the two fingers of his left hand, while with his right hand he applies the end of the quill to the inner angle of the eye in such a manner that the fluid rapidly runs along and diffuses itself over the surface of the eye. Various kinds of eye douches are in use for the application of solutions of different kinds to the eye. They are so numerous that none requires any special description, and they may be had at the different instrument makers.

Pain in the eye, either from disease, from the presence of foreign bodies in it, or from application of strong medicated solutions, or caustics, may be very much relieved by poppy-head fomentations, or by fomenting with warm water, to which a little laudanum has been added.

It is well known that blisters applied to the temples, behind the ears, or even the nape of the neck, and between the shoulders, have an effect, not only in relieving the pain, but in promoting the cure of certain diseases of the eye. One of the readiest and at the same time, most effectual methods of applying a blister with this view, is to soak a few threads in blistering fluid and lay them behind the ear. They can be frequently renewed or not, according to the effect it is desired to produce.

After certain operations upon the eye for extraction of cataract, &c., the greatest care and caution is sometimes required on the part of a nurse to prevent the patient from making any sudden strain or exertion, the consequences of which might easily be to expel the whole contents of the eye through the hole made during the operation, by which accident, of course, sight is completely lost. After such operations the eye is carefully protected, as far as possible, by the medical man; still, with some patients, and more especially with those who have had chloroform, and who may not entirely recover from the effects of it for some time, it is absolutely necessary to watch them most assiduously, in order to prevent such a catastrophe.

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It should be known that the feeling of a foreign body being present in the eye, is not always a sure indication that such is actually the case, but is often one of the precursory symptoms of inflammation of the organ.

Patients frequently complain that they see floating before them black specks like flies, when they look at any object, and they are naturally very much alarmed and apprehensive of incipient disease of the eye; it is well, therefore, to remember that these may be, and are frequently the consequence of indigestion, or of some other functional disturbance of the system. They are not to be looked upon as in any degree serious if they float or move about when the eye is fixed steadily upon any object; a persistent black spot, however, which steadily remains and does not leave the spot upon which the eye is fixed, is not unfrequently a symptom of grave organic disease.